

# Skywalker T.S.

## **CONSTRUCTION OF SPECIFIED ROADS**

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**SCHEDULE OF ITEMS**  
(Timber Sale)

Timber Sale Skywalker  
Road Name N/A

Road No. 7510000  
Length (Miles) 5.21

Item Number	Description	Method of Meas.	Unit	Quantity	S.R.C Unit Price	Total
20103	Clearing and grubbing, disposal of tops and limbs F, logs F, stumps F	CQ	Mile	5.21	\$ 769.08	\$ 4,006.91
20429	End Haul	CQ	Cubic Yard	461.78	\$ 13.69	\$ 6,321.77
30304	Road reconditioning, ditch	CQ	Mile	2.60	\$ 350.90	\$ 912.34
30318	Road reconditioning, roadbed, compaction method (d)	CQ	Mile	5.13	\$ 711.91	\$ 3,652.10
60708	Cleaning culverts in place	AQ	Each	34.00	\$ 80.36	\$ 2,732.24

**SUB-TOTAL: \$ 17,625.36**

**TOTAL ALL ROADS: \$ 190,050.24**

**SCHEDULE OF ITEMS**  
(Timber Sale)

Timber Sale Skywalker

Road No. 7510100

Road Name N/A

Length (Miles) 1.91

Item Number	Description	Method of Meas.	Unit	Quantity	S.R.C Unit Price	Total
15101	Mobilization	AQ	Lump Sum	1.00	\$ 1,027.32	\$ 1,027.32
15219	Establish clearing limits	CQ	Mile	1.91	\$ 628.79	\$ 1,200.99
20104	Clearing and grubbing, disposal of tops and limbs F, logs F, stumps F	CQ	Acre	4.85	\$ 1,601.63	\$ 7,767.91
20401	Roadway excavation, compaction method C, finishing method A	CQ	Cubic Yard	1,111.00	\$ 2.25	\$ 2,499.75
20420	Drainage excavation, type Drain Dip	AQ	Each	15.00	\$ 90.29	\$ 1,354.35
20429	End Haul	CQ	Cubic Yard	1,111.00	\$ 10.25	\$ 11,387.75
30318	Road reconditioning, roadbed, compaction method (d)	CQ	Mile	1.91	\$ 670.54	\$ 1,280.73
60201b	24 inch pipe culvert, furnish and install	AQ	Foot	50.00	\$ 60.32	\$ 3,016.00

**SUB-TOTAL: \$ 29,534.80**

**TOTAL ALL ROADS: \$ 190,050.24**

## SCHEDULE OF ITEMS

(Timber Sale)

Timber Sale Skywalker  
Road Name N/A

Road No. 7510180  
Length (Miles) 0.61

Item Number	Description	Method of Meas.	Unit	Quantity	S.R.C Unit Price	Total
15219	Establish clearing limits	CQ	Mile	0.61	\$ 984.41	\$ 600.49
20104	Clearing and grubbing, disposal of tops and limbs F, logs F, stumps F	CQ	Acre	1.48	\$ 2,913.73	\$ 3,992.89
20401	Roadway excavation, compaction method C, finishing method A	CQ	Cubic Yard	56.07	\$ 2.22	\$ 124.48
20429	End Haul	CQ	Cubic Yard	40.00	\$ 9.39	\$ 375.60
30318	Road reconditioning, roadbed, compaction method (d)	CQ	Mile	0.61	\$ 2,158.52	\$ 1,316.70

SUB-TOTAL: \$ 6,410.16

TOTAL ALL ROADS: \$ 190,050.24

# **SCHEDULE OF ITEMS** (Timber Sale)

Timber Sale Skywalker

Road No. 7510200

Road Name N/A

Length (Miles) 0.9

Item Number	Description	Method of Meas.	Unit	Quantity	S.R.C Unit Price	Total
15101	Mobilization	AQ	Lump Sum	1.00	\$ 3,459.97	\$ 3,459.97
15219	Establish clearing limits	CQ	Mile	0.90		
20104	Clearing and grubbing, disposal of tops and limbs F, logs F, stumps F	CQ	Acre	2.24	\$ 1,601.63	\$ 3,587.65
20401	Roadway excavation, compaction method C, finishing method A	CQ	Cubic Yard	171.00	\$ 2.22	\$ 379.62
20420	Drainage excavation, type Drain Dip	AQ	Each	7.00	\$ 90.29	\$ 632.03
20429	End Haul	CQ	Cubic Yard	171.00	\$ 5.06	\$ 865.26
25102	Placed riprap, class 4	AQ	Ton	45.00	\$ 11.09	\$ 499.05
30318	Road reconditioning, roadbed, compaction method (d)	CQ	Mile	0.90	\$ 984.82	\$ 886.34

**SUB-TOTAL: \$ 10,309.92**

**TOTAL ALL ROADS: \$ 190,050.24**

# **SCHEDULE OF ITEMS** (Timber Sale)

Timber Sale Skywalker

Road No. 7510270

Road Name N/A

Length (Miles) 0.62

Item Number	Description	Method of Meas.	Unit	Quantity	S.R.C Unit Price	Total
15101	Mobilization	AQ	Lump Sum	1.00	\$ 241.48	\$ 241.48
15219	Establish clearing limits	CQ	Mile	0.62	\$ 968.53	\$ 600.49
20104	Clearing and grubbing, disposal of tops and limbs F, logs F, stumps F	CQ	Acre	1.53	\$ 1,601.63	\$ 2,450.49
20401	Roadway excavation, compaction method C, finishing method A	CQ	Cubic Yard	76.00	\$ 2.22	\$ 169.54
20429	End Haul	CQ	Cubic Yard	67.00	\$ 6.21	\$ 416.07
30318	Road reconditioning, roadbed, compaction method (d)	CQ	Mile	0.62	\$ 984.82	\$ 610.59

**SUB-TOTAL: \$ 4,488.66**

**TOTAL ALL ROADS: \$ 190,050.24**

## SCHEDULE OF ITEMS

(Timber Sale)

Timber Sale Skywalker

Road No. 7510300

Road Name N/A

Length (Miles) 1.14

Item Number	Description	Method of Meas.	Unit	Quantity	S.R.C Unit Price	Total
15101	Mobilization	AQ	Lump Sum	1.00	\$ 445.03	\$ 445.03
15219	Establish clearing limits	CQ	Mile	1.14	\$ 526.75	\$ 600.50
20104	Clearing and grubbing, disposal of tops and limbs F, logs F, stumps F	CQ	Acre	2.84	\$ 1,601.63	\$ 4,548.63
20401	Roadway excavation, compaction method C, finishing method A	CQ	Cubic Yard	1,876.00	\$ 2.22	\$ 4,164.72
20429	End Haul	CQ	Cubic Yard	1,876.00	\$ 7.93	\$ 14,876.68
30318	Road reconditioning, roadbed, compaction method (d)	CQ	Mile	1.14	\$ 984.82	\$ 1,122.69

**SUB-TOTAL: \$ 25,758.25**

**TOTAL ALL ROADS: \$ 190,050.24**

**Engineer's Estimate**  
(Timber Sale)

Timber Sale Skywalker

Road No. 7702000

Road Name N/A

Length (Miles) 0.9

Item Number	Description	Method of Meas.	Unit	Quantity	Unit Price	Total
15101	Mobilization	AQ	Lump Sum	1.00	\$ 1,755.67	\$ 1,755.67
15219	Establish clearing limits	CQ	Mile	0.90	\$ 667.21	\$ 600.49
20104	Clearing and grubbing, disposal of tops and limbs F, logs F, stumps F	CQ	Acre	2.20	\$ 1,729.76	\$ 3,805.47
20401	Roadway excavation, compaction method C, finishing method C	CQ	Cubic Yard	10.44	\$ 2.40	\$ 25.06
20419	Drainage excavation, type roadside ditch	CQ	Foot	199.00	\$ 0.88	\$ 175.12
20420	Drainage excavation, type Drain Dip	AQ	Each	7.00	\$ 97.51	\$ 682.57
20420(a)	Drainage excavation, type Catch Basin	AQ	Each	2.00	\$ 475.70	\$ 951.40
30318	Road reconditioning, roadbed, compaction method (d)	CQ	Mile	0.90	\$ 1,122.69	\$ 1,010.42
60201a	18 inch pipe culvert, furnish and install	AQ	Foot	50.00	\$ 51.73	\$ 2,586.50
60201b	24 inch pipe culvert, furnish and install	AQ	Foot	30.00	\$ 65.99	\$ 1,979.70
60202	57 inch X 38 inch culvert, furnish and install	AQ	Foot	60.00	\$ 148.31	\$ 8,898.60

**SUB-TOTAL: \$ 22,471.00**

**TOTAL ALL ROADS: \$ 207,454.82**



# **Engineer's Estimate** (Timber Sale)

Timber Sale Skywalker

Road Name N/A

Road No. 7703000

Length (Miles) 0.56

Item Number	Description	Method of Meas.	Unit	Quantity	Unit Price	Total
15101	Mobilization	AQ	Lump Sum	1.00	\$ 875.34	\$ 875.34
15219	Establish clearing limits	CQ	Mile	0.56	\$ 1,072.30	\$ 600.49
20104	Clearing and grubbing, disposal of tops and limbs F, logs F, stumps F	CQ	Acre	1.35	\$ 1,729.76	\$ 2,335.18
30318	Road reconditioning, roadbed, compaction method (d)	CQ	Mile	0.56	\$ 1,122.69	\$ 628.71

**SUB-TOTAL: \$ 4,439.72**

**TOTAL ALL ROADS: \$ 207,454.82**

**Engineer's Estimate**  
(Timber Sale)

Timber Sale Skywalker

Road No. 7704000

Road Name N/A

Length (Miles) 3.28

Item Number	Description	Method of Meas.	Unit	Quantity	Unit Price	Total
20103	Clearing and grubbing, disposal of tops and limbs F, logs F, stumps F	CQ	Mile	3.28	\$ 830.61	\$ 2,724.40
30304	Road reconditioning, ditch	CQ	Mile	1.49	\$ 400.03	\$ 596.04
30318	Road reconditioning, roadbed, compaction method (d)	CQ	Mile	3.28	\$ 811.58	\$ 2,661.98
60708	Cleaning culverts in place	AQ	Each	21.00	\$ 91.61	\$ 1,923.81

**SUB-TOTAL: \$ 7,906.23**

**TOTAL ALL ROADS: \$ 207,454.82**

**Engineer's Estimate**  
(Timber Sale)

Timber Sale Skywalker  
Road Name N/A

Road No. 7704800  
Length (Miles) 2.07

Item Number	Description	Method of Meas.	Unit	Quantity	Unit Price	Total
15101	Mobilization	AQ	Lump Sum	1.00	\$ 2,823.03	\$ 2,823.03
15219	Establish clearing limits	CQ	Mile	2.07	\$ 580.18	\$ 1,200.97
20104	Clearing and grubbing, disposal of tops and limbs F, logs F, stumps F	CQ	Acre	5.32	\$ 1,729.76	\$ 9,202.32
20401	Roadway excavation, compaction method C, finishing method C	CQ	Cubic Yard	678.00	\$ 2.40	\$ 1,627.20
20420	Drainage excavation, type Drain Dip	AQ	Each	15.00	\$ 97.51	\$ 1,462.65
20420(a)	Drainage excavation, type Catch Basin	AQ	Each	2.00	\$ 475.70	\$ 951.40
20429	End Haul	CQ	Cubic Yard	678.00	\$ 20.05	\$ 13,593.90
30318	Road reconditioning, roadbed, compaction method (d)	CQ	Mile	2.07	\$ 764.41	\$ 1,582.33
60201b	24 inch pipe culvert, furnish and install	AQ	Foot	72.00	\$ 66.44	\$ 4,783.68

**SUB-TOTAL: \$ 37,227.48**

**TOTAL ALL ROADS: \$ 207,454.82**

**Engineer's Estimate**  
(Timber Sale)

Timber Sale Skywalker

Road No. 7800112

Road Name N/A

Length (Miles) 0.47

Item Number	Description	Method of Meas.	Unit	Quantity	Unit Price	Total
15101	Mobilization	AQ	Lump Sum	1.00	\$ 1,205.91	\$ 1,205.91
15219	Establish clearing limits	CQ	Mile	0.47	\$ 1,277.63	\$ 600.49
20104	Clearing and grubbing, disposal of tops and limbs F, logs F, stumps F	CQ	Acre	1.02	\$ 1,729.76	\$ 1,764.36
20420	Drainage excavation, type Drain Dip	AQ	Each	4.00	\$ 97.51	\$ 390.04
30318	Road reconditioning, roadbed, compaction method (d)	CQ	Mile	0.47	\$ 1,122.69	\$ 527.66

**SUB-TOTAL: \$ 4,488.46**

**TOTAL ALL ROADS: \$ 207,454.82**

**Engineer's Estimate**  
(Timber Sale)

Timber Sale Skywalker

Road No. 7800900

Road Name N/A

Length (Miles) 0.52

Item Number	Description	Method of Meas.	Unit	Quantity	Unit Price	Total
15101	Mobilization	AQ	Lump Sum	1.00	\$ 1,338.21	\$ 1,338.21
15219	Establish clearing limits	CQ	Mile	0.52	\$ 1,154.79	\$ 600.49
20104	Clearing and grubbing, disposal of tops and limbs F, logs F, stumps F	CQ	Acre	1.33	\$ 1,729.76	\$ 2,300.58
20401	Roadway excavation, compaction method C, finishing method C	CQ	Cubic Yard	35.93	\$ 2.40	\$ 86.23
30318	Road reconditioning, roadbed, compaction method (d)	CQ	Mile	0.52	\$ 1,122.69	\$ 583.80
60708	Cleaning culverts in place	AQ	Each	1.00	\$ 91.61	\$ 91.61

**SUB-TOTAL: \$ 5,000.92**

**TOTAL ALL ROADS: \$ 207,454.82**

**Engineer's Estimate**  
(Timber Sale)

Timber Sale Skywalker  
Road Name N/A

Road No. 7800910  
Length (Miles) 0.36

Item Number	Description	Method of Meas.	Unit	Quantity	Unit Price	Total
15219	Establish clearing limits	CQ	Mile	0.36	\$ 1,668.03	\$ 600.49
20104	Clearing and grubbing, disposal of tops and limbs F, logs F, stumps F	CQ	Acre	0.88	\$ 1,729.76	\$ 1,522.19
20401	Roadway excavation, compaction method C, finishing method A	CQ	Cubic Yard	25.93	\$ 2.40	\$ 62.23
20420	Drainage excavation, type Drain Dip	AQ	Each	4.00	\$ 68.25	\$ 273.00
30318	Road reconditioning, roadbed, compaction method (d)	CQ	Mile	0.36	\$ 1,122.69	\$ 404.17

**SUB-TOTAL: \$ 2,862.08**

**TOTAL ALL ROADS: \$ 207,454.82**

**Engineer's Estimate**  
(Timber Sale)

Timber Sale Skywalker

Road No. 7803600

Road Name N/A

Length (Miles) 4.25

Item Number	Description	Method of Meas.	Unit	Quantity	Unit Price	Total
15101	Mobilization	AQ	Lump Sum	1.00	\$ 1,845.35	\$ 1,845.35
15219	Establish clearing limits	CQ	Mile	2.38	\$ 504.61	\$ 1,200.97
20104	Clearing and grubbing, disposal of tops and limbs F, logs F, stumps F	CQ	Acre	5.79	\$ 1,205.12	\$ 6,977.64
20420	Drainage excavation, type Drain Dip	AQ	Each	31.00	\$ 97.51	\$ 3,022.81
30318	Road reconditioning, roadbed, compaction method (d)	CQ	Mile	4.20	\$ 1,122.69	\$ 4,715.30

**SUB-TOTAL: \$ 17,762.07**

**TOTAL ALL ROADS: \$ 207,454.82**

**Engineer's Estimate**  
(Timber Sale)

Timber Sale Skywalker

Road No. 7803636

Road Name N/A

Length (Miles) 0.4

Item Number	Description	Method of Meas.	Unit	Quantity	Unit Price	Total
15219	Establish clearing limits	CQ	Mile	0.40	\$ 1,501.23	\$ 600.49
20104	Clearing and grubbing, disposal of tops and limbs F, logs F, stumps F	CQ	Acre	0.99	\$ 876.45	\$ 867.69
20401	Roadway excavation, compaction method C, finishing method A	CQ	Cubic Yard	2.07	\$ 2.40	\$ 4.97
20420	Drainage excavation, type Drain Dip	AQ	Each	3.00	\$ 68.25	\$ 204.75
30318	Road reconditioning, roadbed, compaction method (d)	CQ	Mile	0.32	\$ 1,122.69	\$ 359.26

**SUB-TOTAL: \$ 2,037.16**

**TOTAL ALL ROADS: \$ 207,454.82**



FOREST SERVICE SUPPLEMENTAL SPECIFICATIONS LIST

		ROAD NUMBER					
SKYWALKER T.S.		7510	7510	7510	7510	7510	7510
SECTION NO. & TITLE	REV DATE	000	100	180	200	270	300
<b>101 - Terms, Format, and Definitions</b>							
101 00 FLH FP-03 Corrections	7/25/2005	X	X	X	X	X	X
101 01 Meaning of Terms	1/22/2009	X	X	X	X	X	X
101 03 Abbreviations and Symbols	6/16/2006	X	X	X	X	X	X
101 04 Symbols	3/29/2007	X	X	X	X	X	X
101 04 Definitions	11/6/2007	X	X	X	X	X	X
<b>102 - Bid, Award, and Execution of Contract</b>							
102 00 Delete 102 in its entirety	2/16/2005	X	X	X	X	X	X
<b>103 - Scope of Work</b>							
103 00 Intent of Contract	2/16/2005	X	X	X	X	X	X
<b>104 - Control of Work</b>							
104 00 Deletions to 104	6/16/2006	X	X	X	X	X	X
104 03 Specifications and Drawings	2/22/2005	X	X	X	X	X	X
104 03 Specifications and Drawings.	1/22/2009	X	X	X	X	X	X
104 03 Specifications and Drawings	2/22/2005	X	X	X	X	X	X
104 06 Use of Roads by Contractor	2/17/2005	X	X	X	X	X	X
104 07 Other Contracts	2/17/2005	X	X	X	X	X	X
<b>105 - Control of Material</b>							
105 02 Material Sources	2/17/2005	X	X	X	X	X	X
105 02 Material Sources	1/18/2007	X	X	X	X	X	X
105 05 Work	5/12/2004	X	X	X	X	X	X
<b>106 - Acceptance of Work</b>							
106 01 Requirements	7/31/2007	X	X	X	X	X	X
106 07 Partial and Final Acceptance	5/11/2004	X	X	X	X	X	X
<b>107 - Legal Relations and Responsibility to the Public</b>							
107 05 Claims	5/11/2004	X	X	X	X	X	X
107 06 Work	6/16/2006	X	X	X	X	X	X
107 08 Sanitation, Health & Safety	3/29/2005	X	X	X	X	X	X
107 09 Legal Relationship of the Parties	6/16/2006	X	X	X	X	X	X
107 11 Protection of Forests, Parks, and Public Lands	2/17/2005	X	X	X	X	X	X
<b>108 - Prosecution and Progress</b>							
108 00 Delete Section 108 in entirety	2/16/2005	X	X	X	X	X	X
<b>109 - Measurement and Payment</b>							
109 00 Deletions	2/17/2005	X	X	X	X	X	X
109 02 Definitions	6/16/2006	X	X	X	X	X	X
<b>151 - Mobilization</b>	<b>2005</b>		X		X	X	X
<b>152 - Construction Survey and Staking</b>	<b>2005</b>		X	X	X	X	X
<b>155 - Schedules for Construction Contracts</b>	<b>2005</b>						
155 00 Contractor Quality Control Plan, Records	5/11/2004	X	X	X	X	X	X
<b>170 - Develop Water Supply and Watering</b>							
170 00 Complete Specification	3/30/2005						
<b>201 - Clearing and Grubbing</b>	<b>2005</b>	X	X	X	X	X	X
201 01 Description	2/18/2005	X	X	X	X	X	X

FOREST SERVICE SUPPLEMENTAL SPECIFICATIONS LIST

SKYWALKER T.S.		ROAD NUMBER					
		7510	7510	7510	7510	7510	7510
SECTION NO. & TITLE	REV DATE	000	100	180	200	270	300
201 04 Clearing	2/22/2005	X	X	X	X	X	X
201 04 Clearing	3/3/2005	X	X	X	X	X	X
201 06 Disposal	2/18/2005	X	X	X	X	X	X
201 06 Disposal	11/9/2005	X	X	X	X	X	X
203 - Removal of Structures and Obstructions	2005	X	X	X	X	X	X
203 01 Description	2/25/2005	X	X	X	X	X	X
203 05 Disposing of Material	2/24/2005	X	X	X	X	X	X
203 05 Disposing of Material	2/18/2005	X	X	X	X	X	X
203 05 Disposing of Material	2/18/2005	X	X	X	X	X	X
203 08 Payment	2/24/2005	X	X	X	X	X	X
204 - Excavation and Embankment	2005	X	X	X	X	X	X
204 00 Complete Specification	3/26/2009	X	X	X	X	X	X
204 06 Roadway Excavation	3/2/2005	X	X	X	X	X	X
204 06 Roadway Excavation	3/2/2005	X	X	X	X	X	X
204 09 Embankment Construction	3/2/2005	X	X	X	X	X	X
204 10 Embankment Construction	3/2/2005	X	X	X	X	X	X
204 11 Compaction	4/11/2005	X	X	X	X	X	X
204 13 Sloping, Shaping, and Finishing	3/2/2005	X	X	X	X	X	X
204 13 Sloping, Shaping, and Finishing	3/2/2005	X	X	X	X	X	X
204 14 Excess Material	3/2/2005	X	X	X	X	X	X
204 15 Acceptance	2/7/2007	X	X	X	X	X	X
209 - Structure Excavation and Backfill	2005	-	-	X	-	-	-
209 10 Backfill	10/23/2007	-	-	X	-	-	-
209 11 Compacting	2/24/2005	-	-	X	-	-	-
251 - Riprap	2005				X		
303 - Road Reconditioning	2005	X	X	X	X	X	X
303 01 Description	3/2/2005	X	X	X	X	X	X
303 06 Reconditioning	8/5/2008	X	X	X	X	X	X
303 07 Roadway Reconditioning	3/2/2005	X	X	X	X	X	X
303 11 Measurement	3/29/2005	X	X	X	X	X	X
602 - Culverts and Drains	2005			X			
607 - Cleaning, Reconditioning, and Repairing Existing Drainage Structures	2005	X	X				
607 04 Cleaning Culverts in Place	3/2/2005	X	X				
635 - Temporary Traffic Control							
635 03 General	5/13/2004	X	X	X	X	X	X
705 - Rock							
705 02 Riprap Rock	8/5/2009				X		
718 - Traffic Signing and Marking Material							
718 05 Aluminum Panels	8/5/2009	X	X	X	X	X	X

FOREST SERVICE SUPPLEMENTAL SPECIFICATIONS LIST

		ROAD NUMBER					
SKYWALKER T.S.		7702	7703	7704	7704	7800	7800
SECTION NO. & TITLE	REV DATE	000	000	000	800	112	900
<b>101 - Terms, Format, and Definitions</b>							
101 00 FLH FP-03 Corrections	7/25/2005	X	X	X	X	X	X
101 01 Meaning of Terms	1/22/2009	X	X	X	X	X	X
101 03 Abbreviations and Symbols	6/16/2006	X	X	X	X	X	X
101 04 Symbols	3/29/2007	X	X	X	X	X	X
101 04 Definitions	11/6/2007	X	X	X	X	X	X
<b>102 - Bid, Award, and Execution of Contract</b>							
102 00 Delete 102 in its entirety	2/16/2005	X	X	X	X	X	X
<b>103 - Scope of Work</b>							
103 00 Intent of Contract	2/16/2005	X	X	X	X	X	X
<b>104 - Control of Work</b>							
104 00 Deletions to 104	6/16/2006	X	X	X	X	X	X
104 03 Specifications and Drawings	2/22/2005	X	X	X	X	X	X
104 03 Specifications and Drawings.	1/22/2009	X	X	X	X	X	X
104 03 Specifications and Drawings	2/22/2005	X	X	X	X	X	X
104 06 Use of Roads by Contractor	2/17/2005	X	X	X	X	X	X
104 07 Other Contracts	2/17/2005	X	X	X	X	X	X
<b>105 - Control of Material</b>							
105 02 Material Sources	2/17/2005	X	X	X	X	X	X
105 02 Material Sources	1/18/2007	X	X	X	X	X	X
105 05 Use of Material Found in the Work	5/12/2004	X	X	X	X	X	X
<b>106 - Acceptance of Work</b>							
106 01 Conformity with Contract Requirements	7/31/2007	X	X	X	X	X	X
106 07 Partial and Final Acceptance	5/11/2004	X	X	X	X	X	X
<b>107 - Legal Relations and Responsibility to the Public</b>							
107 05 Responsibility for Damage Claims	5/11/2004	X	X	X	X	X	X
107 06 Contractor Responsibility for Work	6/16/2006	X	X	X	X	X	X
107 08 Sanitation, Health & Safety	3/29/2005	X	X	X	X	X	X
107 09 Legal Relationship of the Parties	6/16/2006	X	X	X	X	X	X
107 11 Protection of Forests, Parks, and Public Lands	2/17/2005	X	X	X	X	X	X
<b>108 - Prosecution and Progress</b>							
108 00 Delete Section 108 in entirety	2/16/2005	X	X	X	X	X	X
<b>109 - Measurement and Payment</b>							
109 00 Deletions	2/17/2005	X	X	X	X	X	X
109 02 Measurement Terms and Definitions	6/16/2006	X	X	X	X	X	X
<b>151 - Mobilization</b>	<b>2005</b>	X	X		X	X	X
<b>152 - Construction Survey and Staking</b>	<b>2005</b>	X	X		X	X	X
<b>155 - Schedules for Construction Contracts</b>	<b>2005</b>						
155 00 Contractor Quality Control Plan, Records	5/11/2004	X	X	X	X	X	X
<b>170 - Develop Water Supply and Watering</b>							
170 00 Complete Specification	3/30/2005						
<b>201 - Clearing and Grubbing</b>	<b>2005</b>	X	X	X	X	X	X
201 01 Description	2/18/2005	X	X	X	X	X	X

FOREST SERVICE SUPPLEMENTAL SPECIFICATIONS LIST

SKYWALKER T.S.		ROAD NUMBER					
		7702	7703	7704	7704	7800	7800
SECTION NO. & TITLE	REV DATE	000	000	000	800	112	900
201 04 Clearing	2/22/2005	X	X	X	X	X	X
201 04 Clearing	3/3/2005	X	X	X	X	X	X
201 06 Disposal	2/18/2005	X	X	X	X	X	X
201 06 Disposal	11/9/2005	X	X	X	X	X	X
203 - Removal of Structures and Obstructions	2005	X	X	X	X	X	X
203 01 Description	2/25/2005	X	X	X	X	X	X
203 05 Disposing of Material	2/24/2005	X	X	X	X	X	X
203 05 Disposing of Material	2/18/2005	X	X	X	X	X	X
203 05 Disposing of Material	2/18/2005	X	X	X	X	X	X
203 08 Payment	2/24/2005	X	X	X	X	X	X
204 - Excavation and Embankment	2005	X		X	X	X	X
204 00 Complete Specification	3/26/2009	X	-	X	X	X	X
204 06 Roadway Excavation	3/2/2005	X	-	X	X	X	X
204 06 Roadway Excavation	3/2/2005	X	-	X	X	X	X
204 09 Embankment Construction	3/2/2005	X	-	X	X	X	X
204 10 Embankment Construction	3/2/2005	X	-	X	X	X	X
204 11 Compaction	4/11/2005	X	-	X	X	X	X
204 13 Sloping, Shaping, and Finishing	3/2/2005	X	-	X	X	X	X
204 13 Sloping, Shaping, and Finishing	3/2/2005	X	-	X	X	X	X
204 14 Excess Material	3/2/2005	X	-	X	X	X	X
204 15 Acceptance	2/7/2007	X	-	X	X	X	X
209 - Structure Excavation and Backfill	2005	X	-	-	X	-	-
209 10 Backfill	10/23/2007	X	-	-	X	-	-
209 11 Compacting	2/24/2005	X	-	-	X	-	-
251 - Riprap	2005						
303 - Road Reconditioning	2005	X	X	X	X	X	X
303 01 Description	3/2/2005	X	X	X	X	X	X
303 06 Reconditioning	8/5/2008	X	X	X	X	X	X
303 07 Roadway Reconditioning	3/2/2005	X	X	X	X	X	X
303 11 Measurement	3/29/2005	X	X	X	X	X	X
602 - Culverts and Drains	2005	X			X		
607 - Cleaning, Reconditioning, and Repairing Existing Drainage Structures	2005						
607 04 Cleaning Culverts in Place	3/2/2005						
635 - Temporary Traffic Control							
635 03 General	5/13/2004	X	X	X	X	X	X
705 - Rock							
705 02 Riprap Rock	8/5/2009						
718 - Traffic Signing and Marking Material							
718 05 Aluminum Panels	8/5/2009	X	X	X	X	X	X

FOREST SERVICE SUPPLEMENTAL SPECIFICATIONS LIST

		ROAD NUMBER					
SKYWALKER T.S.		7800	7803	7803			
SECTION NO. & TITLE	REV DATE	910	600	636			
101 - Terms, Format, and Definitions							
101 00 FLH FP-03 Corrections	7/25/2005	X	X	X			
101 01 Meaning of Terms	1/22/2009	X	X	X			
101 03 Abbreviations and Symbols	6/16/2006	X	X	X			
101 04 Symbols	3/29/2007	X	X	X			
101 04 Definitions	11/6/2007	X	X	X			
102 - Bid, Award, and Execution of Contract							
102 00 Delete 102 in its entirety	2/16/2005	X	X	X			
103 - Scope of Work							
103 00 Intent of Contract	2/16/2005	X	X	X			
104 - Control of Work							
104 00 Deletions to 104	6/16/2006	X	X	X			
104 03 Specifications and Drawings	2/22/2005	X	X	X			
104 03 Specifications and Drawings.	1/22/2009	X	X	X			
104 03 Specifications and Drawings	2/22/2005	X	X	X			
104 06 Use of Roads by Contractor	2/17/2005	X	X	X			
104 07 Other Contracts	2/17/2005	X	X	X			
105 - Control of Material							
105 02 Material Sources	2/17/2005	X	X	X			
105 02 Material Sources	1/18/2007	X	X	X			
Use of Material Found in the							
105 05 Work	5/12/2004	X	X	X			
106 - Acceptance of Work							
Conformity with Contract							
106 01 Requirements	7/31/2007	X	X	X			
106 07 Partial and Final Acceptance	5/11/2004	X	X	X			
107 - Legal Relations and Responsibility to the Public							
Responsibility for Damage							
107 05 Claims	5/11/2004	X	X	X			
Contractor Responsibility for							
107 06 Work	6/16/2006	X	X	X			
107 08 Sanitation, Health & Safety	3/29/2005	X	X	X			
107 09 Legal Relationship of the Parties	6/16/2006	X	X	X			
Protection of Forests, Parks,							
107 11 and Public Lands	2/17/2005	X	X	X			
108 - Prosecution and Progress							
108 00 Delete Section 108 in entirety	2/16/2005	X	X	X			
109 - Measurement and Payment							
109 00 Deletions	2/17/2005	X	X	X			
Measurement Terms and							
109 02 Definitions	6/16/2006	X	X	X			
151 - Mobilization	2005		X				
152 - Construction Survey and Staking	2005	X	X	X			
155 - Schedules for Construction Contracts	2005						
Contractor Quality Control Plan,							
155 00 Records	5/11/2004	X	X	X			
170 - Develop Water Supply and Watering							
170 00 Complete Specification	3/30/2005						
201 - Clearing and Grubbing	2005	X	X	X			
201 01 Description	2/18/2005	X	X	X			

FOREST SERVICE SUPPLEMENTAL SPECIFICATIONS LIST

		ROAD NUMBER				
SKYWALKER T.S.		7800	7803	7803		
SECTION NO. & TITLE	REV DATE	910	600	636		
201 04 Clearing	2/22/2005	X	X	X		
201 04 Clearing	3/3/2005	X	X	X		
201 06 Disposal	2/18/2005	X	X	X		
201 06 Disposal	11/9/2005	X	X	X		
203 - Removal of Structures and Obstructions	2005	X	X	X		
203 01 Description	2/25/2005	X	X	X		
203 05 Disposing of Material	2/24/2005	X	X	X		
203 05 Disposing of Material	2/18/2005	X	X	X		
203 05 Disposing of Material	2/18/2005	X	X	X		
203 08 Payment	2/24/2005	X	X	X		
204 - Excavation and Embankment	2005	X	X	X		
204 00 Complete Specification	3/26/2009	X	X	X		
204 06 Roadway Excavation	3/2/2005	X	X	X		
204 06 Roadway Excavation	3/2/2005	X	X	X		
204 09 Embankment Construction	3/2/2005	X	X	X		
204 10 Embankment Construction	3/2/2005	X	X	X		
204 11 Compaction	4/11/2005	X	X	X		
204 13 Sloping, Shaping, and Finishing	3/2/2005	X	X	X		
204 13 Sloping, Shaping, and Finishing	3/2/2005	X	X	X		
204 14 Excess Material	3/2/2005	X	X	X		
204 15 Acceptance	2/7/2007	X	X	X		
209 - Structure Excavation and Backfill	2005	-	-	-		
209 10 Backfill	10/23/2007	-	-	-		
209 11 Compacting	2/24/2005	-	-	-		
251 - Riprap	2005					
303 - Road Reconditioning	2005	X	X	X		
303 01 Description	3/2/2005	X	X	X		
303 06 Reconditioning	8/5/2008	X	X	X		
303 07 Roadway Reconditioning	3/2/2005	X	X	X		
303 11 Measurement	3/29/2005	X	X	X		
602 - Culverts and Drains	2005					
607 - Cleaning, Reconditioning, and Repairing Existing Drainage Structures	2005					
607 04 Cleaning Culverts in Place	3/2/2005					
635 - Temporary Traffic Control						
635 03 General	5/13/2004	X	X	X		
705 - Rock						
705 02 Riprap Rock	8/5/2009					
718 - Traffic Signing and Marking Material						
718 05 Aluminum Panels	8/5/2009	X	X	X		

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## Preface

Preface\_wo\_03\_15\_2004\_m

Delete all but the first paragraph and add the following:

The Forest Service, US Department of Agriculture has adopted FP-03 for construction of National Forest System Roads.

## 101 - Terms, Format, and Definitions

101.00\_nat\_us\_07\_25\_2005

101.01\_nat\_us\_01\_22\_2009

### 101.01 Meaning of Terms

Delete all references to the TAR (Transportation Acquisition Regulations) in the specifications.

101.03\_nat\_us\_06\_16\_2006

### 101.03 Abbreviations.

Add the following to (a) Acronyms:

AFPA	American Forest and Paper Association
MSHA	Mine Safety and Health Administration
NIST	<u>National Institute of Standards and Technology</u>
NESC	National Electrical Safety Code
WCLIB	West Coast Lumber Inspection Bureau

Add the following to (b) SI symbols:

mp	Milepost
ppm	Part Per Million

101.04\_nat\_us\_03\_29\_2007

### 101.04 Definitions.

Delete the following definitions and substitute the following:

**Bid Schedule**--The Schedule of Items.

**Bridge**--No definition.

**Contractor**--The individual or legal entity contracting with the Government for performance of prescribed work. In a timber sale contract, the contractor is the "purchaser".

**Culvert**--No definition.

**Right-of-Way**--A general term denoting (1) the privilege to pass over land in some particular line (including easement, lease, permit, or license to occupy, use, or traverse public or private lands), or (2) Real property necessary for the project, including roadway, buffer areas, access, and drainage areas.

Add the following:

**Adjustment in Contract Price**--“Equitable adjustment,” as used in the Federal Acquisition Regulations, or “construction cost adjustment,” as used in the Timber Sale Contract, as applicable.

**Change**--“Change” means “change order” as used in the Federal Acquisition Regulations, or “design change” as used in the Timber Sale Contract.

**Design Quantity**--“Design quantity” is a Forest Service method of measurement from the FS-96 *Forest Service Specifications for the Construction of Roads and Bridges*. Under these FP specifications this term is replaced by the term “Contract Quantities”.

**Forest Service**--The United States of America, acting through the Forest Service, U.S. Department of Agriculture.

**Neat Line**--A line defining the proposed or specified limits of an excavation or structure.

**Pioneer Road**--Temporary construction access built along the route of the project.

**Purchaser**--The individual, partnership, joint venture, or corporation contracting with the Government under the terms of a Timber Sale Contract and acting independently or through agents, employees, or subcontractors.

**Protected Streamcourse**--A drainage shown on the plans or timber sale area map that requires designated mitigation measures.

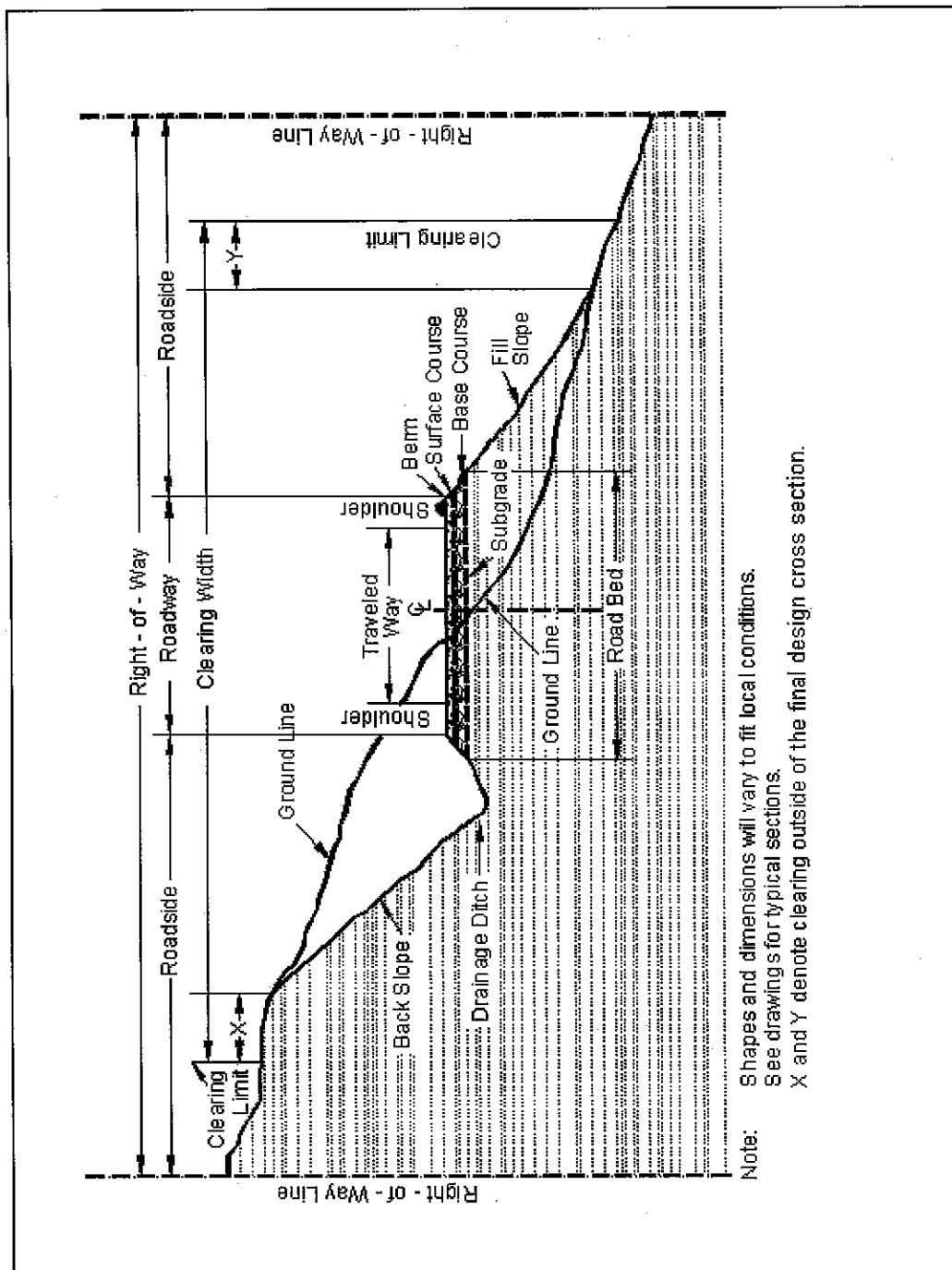
**Road Order**--An order affecting and controlling traffic on roads under Forest Service jurisdiction. Road Orders are issued by a designated Forest Officer under the authorities of 36 CFR, part 260.

**Schedule of Items**--A schedule in the contract that contains a listing and description of construction items, quantities, units of measure, unit price, and amount.

**Utilization Standards**--The minimum size and percent soundness of trees described in the specifications to determine merchantable timber.

Add Figure 101-1—Illustration of road structure terms:

Figure 101-1—Illustration of road structure terms.



**101.04 Definitions.**

Delete the following definitions:

Contract Modification

Day

Notice to Proceed

Solicitation

**102 - Bid, Award, and Execution of Contract**

102.00\_nat\_us\_02\_16\_2005

**102 Bid, Award, and Execution of Contract**

Delete Section 102 in its entirety.

**103 - Scope of Work**

103.00\_nat\_us\_02\_16\_2005

**Deletions**

Delete all but subsection 103.01 Intent of Contract.

## 104 - Control of Work

104.00\_nat\_us\_06\_16\_2006

### Deletions

Delete Sections 104.01, 104.02, and 104.04.

104.03\_nat\_us\_02\_22\_2005

### 104.03 Drawings and Specifications

Delete subsection 104.03

104.03\_nat\_us\_01\_22\_2009

### 104.03 Specifications and Drawings.

Delete 104.03.

104.06\_nat\_us\_02\_17\_2005

Add the following subsection:

### 104.06 Use of Roads by Contractor

The Contractor is authorized to use roads under the jurisdiction of the Forest Service for all activities necessary to complete this contract, subject to the limitations and authorizations designated in the Road Order(s) or described in the contract, when such use will not damage the roads or national forest resources, and when traffic can be accommodated safely.

104.07\_nat\_us\_02\_17\_2005

Add Subsection.

### 104.07 Other Contracts.

**Example:** The Federal Highway Administration is administering and is intending to award a contract for the reconstruction of 3 1/2 miles of Salmon la Sac Road approximately 5 miles north of this project. Schedule activities to assure no delays or interference to the operations of the Federal Highway Administration contract.

## 105 - Control of Material

105.02\_nat\_us\_01\_18\_2007

### 105.02 Material Sources.

#### 105.02(a) Government-provided sources.

##### Add the following:

Comply with the requirements of 30 CFR 56, subparts B and H. Use all suitable material for aggregate regardless of size unless otherwise designated. When required, re-establish vegetation in disturbed areas according to section 625.

105.02\_nat\_us\_02\_17\_2005

#### 105.02(a) Government Provided Sources.

(a) Government-provided sources. Add the following:

Government-provided sources for this project are identified as follows:

(1) Government-provided mandatory sources.

Obtain material for use as (borrow/riprap/boulders/etc.) and in the production of aggregates under Sections (301/401/411/etc.) from (Material Source Number or name).

(2) Government-provided optional sources.

Material for use as (borrow/riprap/boulders/etc.) and in the production of aggregates under Sections (301/401/411/etc.) may be obtained from (Material Source Number or name).

105.05\_nat\_us\_05\_12\_2004

#### 105.05 Use of Material Found in the Work.

Delete 105.05 (a) and (b) and the last sentence of the second paragraph and substitute the following:

Materials produced or processed from Government lands in excess of the quantities required for performance of this contract are the property of the Government. The Government is not obligated to make reimbursement for the cost of producing these materials.



## 106 - Acceptance of Work

106.01\_nat\_us\_07\_31\_2007

### 106.01 Conformity with Contract Requirements.

Delete Subsection 106.01 and substitute the following:

References to standard test methods of AASHTO, ASTM, GSA, and other recognized standard authorities refer to the methods in effect on the date of solicitation for bids.

Perform all work to the lines, grades, cross-sections, dimensions, and processes or material requirements shown on the plans or specified in the contract.

Incorporate manufactured materials into the work according to the manufacturer's recommendations or to these specifications, whichever is more strict.

Plan dimensions and contract specification values are the values to be strived for and complied with as the design values from which any deviations are allowed. Perform work and provide material that is uniform in character and reasonably close to the prescribed value or within the specified tolerance range. The purpose of a tolerance range is to accommodate occasional minor variations from the median zone that are unavoidable for practical reasons.

When standard manufactured items are specified (such as fence, wire, plates, rolled shapes, pipe conduits, etc., that are identified by gauge, unit mass, section dimensions, etc.), the identification will be considered to be nominal masses or dimensions. Unless specific contract tolerances are noted, established manufacturing tolerances will be accepted.

The Government may inspect, sample, or test all work at any time before final acceptance of the project. When the Government tests work, copies of test reports are furnished to the Contractor upon request. Government tests may or may not be performed at the work site. If Contractor testing and inspection is verified by the Government, the Contractor's results may be used by the Government to evaluate work for acceptance. Do not rely on the availability of Government test results for process control.

Acceptable work conforming to the contract will be paid for at the contract unit bid price. Four methods of determining conformity and accepting work are described in Subsections 106.02 to 106.05 inclusive. The primary method of acceptance is specified in each Section of work. However, work may be rejected at any time it is found by any of the methods not to comply with the contract.

Remove and replace work that does not conform to the contract, or to prevailing industry standards where no specific contract requirements are noted, at no cost to the Government.

**(a) Disputing Government test results. If the accuracy of Government test results is disputed, promptly inform the CO. If the dispute is unresolved after reasonable steps**

are taken to resolve the dispute, further evaluation may be obtained by written request. Include a narrative describing the dispute and a proposed resolution protocol that addresses the following:

- (1) Sampling method;
- (2) Number of samples;
- (3) Sample transport;
- (4) Test procedures;
- (5) Testing laboratories;
- (6) Reporting;
- (7) Estimated time and costs; and
- (8) Validation process.

If the evaluation requires additional sampling or testing be performed, mutually agree with the Government on witnessing procedures and on sampling and testing by a third party laboratory. Use a third party laboratory accredited by the AASHTO accreditation program. Provide proof of the laboratory's accreditation for the test procedures to be used. Do not use the same laboratory that produced the disputed Government test results or that produced the test results used as a basis for the dispute.

The CO will review the proposed resolution protocol and may modify it before final approval and execution.

The Government will use the approved resolution protocol test results to determine the validity of the disputed testing. If the Government test results are validated, the Contractor will be responsible for all costs associated with developing and performing the resolution protocol. If the Government test results are not validated, the Government will be responsible for all costs associated with developing and performing the resolution protocol. If the validity of the Government test results cannot be determined, the Contractor and Government will equally share all costs associated with developing and carrying out the resolution protocol.

**(b) Alternatives to removing and replacing non-conforming work.** As an alternative to removal and replacement, the Contractor may submit a written request to:

- (1) Have the work accepted at a reduced price; or
- (2) Be given permission to perform corrective measures to bring the work into conformity.

The request must contain supporting rationale and documentation. Include references or data justifying the proposal based on an evaluation of test results, effect on service life, value of material or work, quality, aesthetics, and other tangible engineering basis. The CO will determine disposition of the nonconforming work.

106.07\_nat\_us\_05\_11\_2004

**106.07 Delete**

Delete subsection 106.07.

## **107 - Legal Relations and Responsibility to the Public**

107.05\_nat\_us\_05\_11\_2004

### **107.05 Responsibility for Damage Claims.**

Delete the entire subsection.

107.06\_nat\_us\_06\_16\_2006

### **107.06 Contractor's Responsibility for Work.**

Delete the following from the first paragraph.

“except as provided in Subsection 106.07”.

107.08\_nat\_us\_03\_29\_2005

### ***107.08 Sanitation, Health, and Safety***

Delete the entire subsection.

107.09\_nat\_us\_06\_16\_2006

### **107.09 Legal Relationship of the Parties.**

Delete the entire subsection.

107.10\_nat\_us\_06\_16\_2006

### **107.10 Environmental Protection.**

Add the following:

Design and locate equipment repair shops, stationary refueling sites, or other facilities to minimize the potential and impacts of hazardous material spills on Government land.

Before beginning any work, submit a Hazardous Spill Plan. List actions to be taken in the event of a spill. Incorporate preventive measures to be taken, such as the location of mobile refueling facilities, storage and handling of hazardous materials, and similar information. Immediately notify the CO of all hazardous material spills. Provide a written narrative report form no later than 24 hours after the initial report and include the following:

- Description of the item spilled (including identity, quantity, manifest number, and other identifying information).
- Whether amount spilled is EPA or state reportable, and if so whether it was reported, and to whom.

- Exact time and location of spill including a description of the area involved.
- Containment procedures.
- Summary of any communications the Contractor had with news media, Federal, state and local regulatory agencies and officials, or Forest Service officials.
- Description of clean-up procedures employed or to be employed at the site including final disposition and disposal location of spill residue.

When available provide copies of all spill related clean up and closure documentation and correspondence from regulatory agencies.

The Contractor is solely responsible for all spills or leaks that occur during the performance of this contract. Clean up spills or leaks to the satisfaction of the CO and in a manner that complies with Federal, state, and local laws and regulations.

## 107 - Legal Relations and Responsibility To the Public

107.11\_nat\_us\_02\_17\_2005

### 107.11 Protection of Forests, Parks, and Public Lands:

Add the following:

*Add appropriate fire plan and equipment language.*

## 108 - Prosecution and Progress

108.00\_nat\_us\_02\_16\_2005

**108 Delete.**

Delete Section 108 in its entirety.

## 109 - Measurement and Payment

109.00\_nat\_us\_02\_17\_2005

### 109 Deletions

Delete the following entire subsections:

**109.06 Pricing of Adjustments.**

**109.07 Eliminated Work.**

**109.08 Progress Payments.**

**109.09 Final Payment.**

109.02\_nat\_us\_06\_16\_2006

### 109.02 Measurement Terms and Definitions.

#### **(b) Contract quantity.**

Add the following:

Contract quantities will be adjusted only when there are errors in the original design of 15% or more.

Change the following:

“(b) Cubic yard” to “(c) Cubic yard”.

Add the following definition:

**(p) Thousand Board Feet (Mbf).** 1,000 board feet based on nominal widths, thickness, and extreme usable length of each piece of lumber or timber actually incorporated in the job. For glued laminated timber, 1,000 board feet based on actual width, thickness, and length of each piece actually incorporated in the job.

## **155 - Schedules for Construction Contracts**

155.00\_nat\_us\_05\_11\_2004

**155 Delete.**

Delete Section 155 in its entirety.

## **170 - Develop Water Supply and Watering**

170.00\_nat\_us\_03\_30\_2005

### **Description**

**170.01** This work consists of developing an acceptable water supply, furnishing, hauling, and applying water.

### **Materials**

**170.02** Conform to the following subsection.

Water	725.01.
-------	---------

### **Construction Requirements**

**170.03 Development of Supply & Access.** Develop water supplies and access to the water supplies as required. Use designated water sources or other approved water sources. Before using non-designated water sources, obtain all necessary permissions, water rights, and permits.

**170.04 Equipment.** Provide mobile watering equipment with watertight tanks of known capacity. Provide for positive control of water application from the driver's position.

**170.05 Application.** Apply water uniformly without ponding or washing.

**170.06 Acceptance.** Developing water supplies and watering will be evaluated under Subsections 106.02 and 106.04.

### **Measurement**

**170.07** Measure the Section 170 items listed in the bid schedule according to Subsection 109.02.

### **Payment**

**170.08** The accepted quantities will be paid at the contract price per unit of measurement for the Section 170 pay items listed in the bid schedule. Payment will be full compensation for the work prescribed in this Section. See Subsection 109.05.

## 201 - Clearing and Grubbing

201.01\_nat\_us\_02\_18\_2005

### 201.01 Description

#### Replace with the following

This work consists of clearing and grubbing within clearing limits and other designated areas.

201.04\_nat\_us\_02\_22\_2005

### 201.04 Clearing. (c)

#### Delete paragraph (c) and replace with the following:

(c) In areas outside the excavation, embankment, and slope rounding limits, cut stumps to within 12 inches or one-third of the stump diameter of the ground, whichever is higher, measured on the side adjacent to the highest ground. For timber sales, stump heights will meet the requirements of the Timber Sale contract.

### 201.04 Clearing.

#### Delete subsection (d) and replace with the following:

(d) Do not cut vegetation less than 3 feet tall and less than 3 inches in diameter, that is within the clearing limits but beyond the roadway and not in a decking area, and that does not interfere with sight distance along the road.

#### Add the following:

(e) Trim branches of remaining trees or shrubs to give a clear height of 14 feet above the roadbed unless otherwise indicated. Trim tree limbs as near flush with the trunk as practicable.

(f) Remove brush from log decks. Deck logs so that logs are piled parallel to one another; can be removed by standard log loading equipment; will not damage standing trees; will not interfere with drainage, and will not roll. Keep logs in log decks free of brush and soil.

201.04\_nat\_us\_03\_03\_2005



## Construction Requirements

201.06\_nat\_us\_02\_18\_2005

### **201.06 Disposal.**

Delete the first sentence of this subsection and substitute the following:

Dispose of merchantable timber designated for removal according to the provisions of the timber sale contract.

201.06\_nat\_us\_11\_09\_2005

### **201.06 Disposal**

Delete the first sentence of this paragraph and substitute the following:

Limb and deck logs that meet utilization standards at locations approved by the CO or otherwise designated. Deck logs according to 201.04 (f).

## 204 - Excavation and Embankment

204.06\_nat\_us\_03\_02\_2005

### 204.06 Roadway Excavation

#### (a) General.

##### Add the following:

Retrieve material deposited outside of the clearing limits as directed by the CO. Place unsuitable material in designated areas.

204.06\_nat\_us\_03\_02\_2005

### 204.06 Roadway Excavation.

##### Add the following:

**d) Pioneer Roads.** Road pioneering, slash disposal, and grubbing of stumps may proceed concurrently with excavation. Conduct excavation and placement operations so material to be treated under Section 201 will not be incorporated into the roadway unless specified in the slash treatment method. Maintain drainage during pioneering operations.

Remove snow and ice in advance of the work and deposit beyond the roadway limits in a manner that will not waste material or generate sediment. Do not incorporate snow and ice into embankments. Place snow or ice in a manner to prevent resource damage.

204.09\_nat\_us\_03\_02\_2005

### 204.09 Preparing Foundation for Embankment Construction.

##### Delete subsection (a) and replace it with the following:

**(a) Embankment less than 4 feet high over natural ground.** When designated, remove topsoil and break up the ground surface to a minimum depth of 6 inches by plowing or scarifying. Compact the ground surface according to Subsection 204.11.

204.10\_nat\_us\_03\_02\_2005

### 204.10 Embankment Construction.

##### Add the following:

Obtain written approval before beginning construction of embankments over 6 feet high at subgrade centerline.

#### (a) General.

##### Delete the third paragraph and add the following:

Compact embankment side slopes flatter than 1V:1.75H with a tamping type roller or by walking with a dozer. For slopes 1V:1.75H or steeper, compact the slopes as construction of the embankment progresses.

204.11\_nat\_us\_04\_11\_2005

#### **204.11 Compaction.**

Delete the first paragraph and replace it with the following:

For compaction according to method (a), (b), or (c), use AASHTO T 27 to determine the amount of material retained on a Number. 4 sieve. For compaction methods (d) or (e) no sieve test is required.

Add the following compaction methods:

**(d) Layer Placement Method (Hauling and Spreading Equipment).** Place material by end dumping to the minimum depth needed for operation of spreading equipment. Level and smooth each embankment layer before placing the next layers. Operate hauling and spreading equipment uniformly over the full width of each layer. Construct a solid embankment with adequate compaction by working smaller rock and fines in with the larger rocks to fill the voids, and by operating hauling and spreading equipment uniformly over the full width of each layer as the embankment is constructed.

**(e) Layer Placement (Roller Compaction) Method.** Place material by end dumping to the minimum depth needed for operation of spreading equipment. Adjust the moisture content of the material to obtain a mass that will not visibly deflect under the load of the hauling and spreading equipment. Operate compaction equipment over the full width of each layer until visible deformation of the layer ceases or, in when a sheepsfoot roller is used, the roller “walks out” of the layer. Make at least three complete passes.

204.13\_nat\_us\_03\_02\_2005

#### **204.13 Sloping, Shaping, and Finishing.**

**(a) Sloping.**

Add the following:

Slope rounding is not required on tolerance class D though M roads.

204.13\_nat\_us\_03\_02\_2005

#### **204.13 Sloping, Shaping, and Finishing.**

Delete section (d) and add the following:

**(d) Finishing.** For surfaced roads, remove all material larger than 6 inches from the top 6 inches of the roadbed. For all roads, finish the roadbed to be smooth and uniform, and shaped to

conform to the typical sections. Remove unsuitable material from the roadbed and replace it with suitable material. Finish roadbeds to the tolerance class shown in table 204-2.

Ensure that the subgrade for both surfaced and unsurfaced roads is visibly moist during shaping and dressing. Scarify to 6 inches below the bottom of low sections, holes, cracks, or depressions and bring back to grade with suitable material. Maintain proper ditch drainage.

For unsurfaced roads, use one of the following methods to finish the roadbed:

- (1) Method A. Remove all material larger than 6 inches from the top 6 inches of the roadbed and replace with suitable material.
- (2) Method B. Use a vibratory grid roller or approved equal with a minimum weight of 10 tons. Roll at least 5 full-width passes or until visible displacement ceases.
- (3) Method C. For roads designated as Construction Tolerance Class K, L, or M, finish the roadbed by spreading the excavation. Eliminate rock berms.

Add Table 204-2—Construction Tolerances:

**Table 204-2 Construction tolerances.**

	Tolerance Class <sup>(a)</sup>												
	A	B	C	D	E	F	G	H	I	J	K	L	M
Roadbed width (ft)	+0.5	+0.5	+1.0	+1.0	+1.0	+1.0	+1.5	+1.0	+2.0	+2.0	+2.0	+2.0	+2.0
Subgrade elevation (ft)	±0.1	±0.2	±0.2	±0.5	±0.5	±1.0	±1.0	±1.5	±2.0	±3.0	±2.0	±3.0	(c)
Centerline alignment (ft)	±0.2	±0.2	±0.5	±0.5	±1.0	±1.0	±1.5	±1.5	±2.0	±3.0	±3.0	±5.0	(c)
Slopes, excavation, and embankment (% slope <sup>(b)</sup> )	±3	±5	±5	±5	±5	±5	±10	±10	±10	±10	±20	±20	±20

a. Maximum allowable deviation from construction stakes and drawings.

b. Maximum allowable deviation from staked slope measured from slope stakes or hinge points.

c. Unless otherwise shown the centerline alignment and subgrade elevation, as built, have no horizontal curves with a radius of less than 80 feet, and no vertical curves with a curve length of less than 80 feet when the algebraic difference in the grade change is less than 10 percent, or a curve length of less than 100 feet when the algebraic difference of the grade change is greater than or equal to 10 percent. The centerline grade is not to exceed 20 percent in 100 feet of length.

204.14\_nat\_us\_03\_02\_2005

**204.14 Disposal of Unsuitable or Excess Material.**

Delete the text of the first paragraph and substitute the following:

Dispose of unsuitable or excess material at designated sites or legally off of the project.

## 204.15 Acceptance

### Table 204-1 Sampling and Testing Requirements.

Add the following note to the table:

(2) When compaction methods (d) or (e) are used AASHTO M 145, T 99, T 180, and T 310 are not required for earth embankment test methods.

## 209 - Structure Excavation and Backfill

209.10\_nat\_us\_10\_23\_2007

### 209.10 Backfill.

#### (a) General.

##### Add the following:

Replace any pipe that is distorted by more than 5 percent of nominal dimensions, or that is ruptured or broken.

Do not place or backfill pipe that meets any of the following conditions until the excavation and foundation have been approved in writing by the CO:

- Embankment height greater than 6 feet at subgrade centerline.
- Installation in a protected streamcourse.
- Round pipe with a diameter of 48 inches or greater.
- Pipe arches with a span of 50 inches or greater.
- Any box culvert of structure other than pipe culverts.

#### (b) Pipe culverts.

##### (1) Pipe culverts with compacted backfill.

##### Add the following:

Excavate an area on each side of the pipe as needed to effectively achieve compaction requirements. Backfill without damaging or displacing the pipe. Complete backfilling of the trench with suitable material.

209.11\_nat\_us\_02\_24\_2005

### 209.11 Compacting.

##### Delete the subsection and add the following:

Compact backfill using designated compaction method A, B, or C:

**Method A.** Ensure that backfill density exceeds the density of the surrounding embankment.

**Method B.** Adjust the moisture content of the backfill material to a moisture content suitable for compaction. Compact each layer using appropriate compaction equipment until visual displacement ceases. For compaction under sections 252, 254, 255, 257, 258 and 262 compact with a vibratory steel wheeled roller with a mass of at least 8 tons.

**Method C.** Determine optimum moisture content and maximum density according to AASHTO T 99 method C. Adjust the moisture content of the backfill material to a moisture content suitable for compaction. Compact material placed in all layers to at least 95 percent of the maximum density. Determine the in place density and moisture content according to AASHTO T 310 or other approved test procedures.

**Table 209-1 Sampling and Testing Requirements**

Add the following:

(2) Compaction methods (A) and (B) do not require AASHTO T-99 or T-310 test methods for foundation fill.

## **303 - Road Reconditioning**

303.01\_nat\_us\_03\_02\_2005

### **303.01 Work.**

Delete and add the following:

This work consists of reconditioning ditches, shoulders, roadbeds, cattleguards, asphalt surfaces, and aggregate surfaces.

303.06\_nat\_us\_08\_05\_2008

### **303.06 Aggregate Surface Reconditioning.**

Delete and replace with the following:

#### **303.06 Asphalt and Aggregate Surface Reconditioning.**

Repair soft and unstable areas to the full depth of the aggregate surface and according to Subsection 204.07. Scarify to the depth of the aggregate surface or to a depth of 6 inches, whichever is less, and remove surface irregularities. Reshape, finish, and compact the entire aggregate surface according to Subsection 301.05, Subsection 321.05, or Subsection 322.05 as applicable.

For asphalt surfaces, clean the existing surface of all loose material, dirt, or other deleterious substances by approved methods. Remove and dispose of unsuitable material that shows evidence of distress, excess asphalt material, or settlement in the roadbed. Patch the areas with approved material that conforms to and is compatible with the adjacent pavement structure. Perform the patch work according to Section 301, 404, 430, or other sections as applicable for the layer or courses being repaired. Clean and seal cracks in the existing asphalt surface according to Subsection 414.05. Correct surface irregularities exceeding 6 inches in depth with a specified aggregate. Place and compact the aggregate according to Subsections 301.04 and 301.05. Prelevel other dips, depressions, sags, excessive or nonexistent crown, or other surface irregularities with asphalt concrete according to Section 404. Spread and compact the asphalt concrete in layers parallel to the grade line not to exceed 2 inches in compacted depth.



**Delete Table 303-1 and replace with the following:**

**Table 303-1  
Sampling and Testing Requirements**

Material or Product	Type of Acceptance (Subsection)	Characteristic	Category	Test Methods Specifications	Sampling Frequency	Point of Sampling	Split Sample	Reporting Time
Existing Roadway	Measured and tested for conformance (106.04)	Moisture-density Method D	—	AASHTO T 99 <sup>(1)</sup>	1 per each mixture or change in material	Processed material before incorporating in work	Yes, when requested	Before using in work
		Moisture-density Method E	—	R-1 Marshall	"	"	"	"
		Moisture-density Method F	—	AASHTO T 180 <sup>(1)</sup>	"	"	"	"
		Moisture-density Method G	—	R-1 Marshall	"	"	"	"
		In-place density & moisture content	—	AASHTO T 310 or other approved procedures	1 per 3000 yd <sup>2</sup>	In-place	—	Before placing next layer

(1) Minimum of 5 points per proctor.

303.07\_nat\_us\_03\_02\_2005

### **303.07 Roadway Reconditioning.**

#### **Add the following:**

Remove cattleguard decks. Clean the deck and the area beneath the cattleguard of soil and other material to the bottom of the original foundation over the entire width of the installation.  
Reinstall the cattleguard deck.

303.11\_nat\_us\_03\_29\_2005

### **303.10 Measurement**

#### **Modify the second paragraph as follows:**

Measure ditch reconditioning and shoulder reconditioning by the mile, station, or foot horizontally along the centerline of the roadway for each side of the roadway.

## **607 - Cleaning, Reconditioning, and Repairing Existing Drainage**

607.04\_nat\_us\_03\_02\_2005

### **607.04 Cleaning Culverts in Place.**

#### **Add the following:**

If approved by the CO, all or part of the pipe designated to be cleaned in-place may be removed, cleaned, and re-laid in accordance with Section 602. In these cases, furnish all material required to replace damaged pipe and joints and relay the pipe.

## **635 - Temporary Traffic Control**

635.03\_nat\_us\_05\_13\_2004

### **635.03 General.**

#### **Add the following:**

Install temporary traffic control signs to temporary posts or approved temporary sign mounts.

## 705 - Rock

705.02\_nat\_us\_08\_05\_2009

### 705.02 Riprap Rock.

Delete Table 705-1 and replace it with the following:

**Gradation Requirements for Riprap**

<b>Class</b>	<b>Percent of Rock by Mass</b>	<b>Mass (pounds)</b>	<b>Approximate Cubic Dimension<sup>b,c</sup> (inches)</b>
1	20	22 to 33	6 to 8
	30	11 to 22	5 to 6
	40	1 to 11	2 to 5
	10 <sup>a</sup>	0 to 1	0 to 2
2	20	55 to 110	8 to 10
	30	22 to 55	6 to 8
	40	2 to 22	3 to 6
	10 <sup>a</sup>	0 to 2	0 to 3
3	20	220 to 330	14 to 16
	30	110 to 220	10 to 14
	40	11 to 110	5 to 10
	10 <sup>a</sup>	0 to 11	0 to 5
4	20	550 to 770	18 to 20
	30	220 to 570	14 to 18
	40	22 to 220	6 to 14
	10 <sup>a</sup>	0 to 22	0 to 6
4a	20	770 to 1353	20 to 24
	30	330 to 770	16 to 20
	40	33 to 330	7 to 16
	10 <sup>a</sup>	0 to 33	0 to 7
5	20	1540 to 2200	26 to 28
	30	1100 to 1540	20 to 26
	40	55 to 1100	8 to 20
	10 <sup>a</sup>	0 to 55	0 to 8
6	20	1870 to 3520	28 to 34
	30	1100 to 1870	22 to 28
	40	110 to 1100	10 to 22
	10 <sup>a</sup>	0 to 110	0 to 10
7	20	4400 to 5940	35 to 39
	30	2200 to 4400	28 to 35
	40	220 to 2200	14 to 28
	10 <sup>a</sup>	0 to 220	0 to 14
8	20	7000 to 10000	42 to 47
	30	4000 to 7000	35 to 42

	40	400 to 4000	16 to 35
	10 <sup>a</sup>	0 to 400	0 to 16

- (a) Furnish spall and rock fragments graded to provide a stable dense mass.
- (b) The volume of a rock with these cubic dimensions has a mass approximately equal to the specified rock mass.
- (c) Furnish rock with breadth and thickness at least one-third its length.

## 718 - Traffic Signing and Marking Material

718.05\_nat\_us\_08\_05\_2009

### 718.05 Aluminum Panels

Delete the third paragraph and replace with the following:

Clean, degrease and properly prepare the panels according to methods recommended by the sheeting manufacturer. Conversion coatings will conform to ASTM B-921 or ASTM B-449.

9-2 (Rev. 4-6)

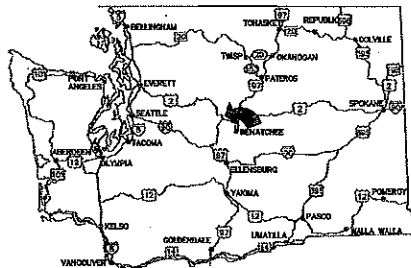
UNITED STATES DEPARTMENT OF AGRICULTURE  
FOREST SERVICE

REGION 6  
OKANOGAN - WENATCHEE NATIONAL FORESTS

Wenatchee River Ranger District

CONSTRUCTION DRAWINGS FOR

Skywalker T.S.



KEY MAP OF WASHINGTON SHOWING LOCATION OF PROJECT

INDEX TO SHEETS

SHEET NO.	DESCRIPTION
1	TITLE
2-3	VICINITY MAP
4-6	ESTIMATE OF QUANTITIES
7	NOTES, SYMBOLS & TYPICAL DETAILS
8	ROAD STRUCTURE DETAILS
9	CLEARING DETAILS
10	DRAINAGE LISTING
11	DRAINAGE CONSTRUCTION DETAILS
12	DRAIN DIP DETAILS
13	SIGN PLAN
14	7510200 STREAM CROSSING DETAILS
15	WORK DESCRIPTIONS
16	WORK DESCRIPTIONS
17	WORK DESCRIPTIONS
18	WORK DESCRIPTIONS

ROAD NO.	LENGTH MILES	RECONST./CONST.	SHEET NO.
7510 000	5.21	RECONST	15
7510 100	1.91	RECONST	15
7510 180	0.61	RECONST	16
7510 200	0.90	RECONST	16
7510 270	0.62	RECONST	16
7510 300	1.14	RECONST	16
7702 000	0.90	RECONST	16
7703 000	0.56	RECONST	17
7704 000	3.28	RECONST	17

ROAD NO.	LENGTH MILES	RECONST./CONST.	SHEET NO.
7704 800	2.07	RECONST	17
7800 112	0.47	RECONST	18
7800 900	0.52	RECONST	18
7800 910	0.36	RECONST	18
7803 600	4.25	RECONST	18
7803 636	0.40	RECONST	18

TOTAL CONSTRUCTION 0 MILES  
TOTAL RECONSTRUCTION 23.20 MILES

U.S. DEPARTMENT OF AGRICULTURE  
FOREST SERVICE  
R-6  
PACIFIC NORTHWEST REGION

Reviewed and Approved By

District Ranger \_\_\_\_\_ Date \_\_\_\_\_  
Forest Engineer \_\_\_\_\_ Date \_\_\_\_\_

Recommended and Approved By

Zone Engineer \_\_\_\_\_ Date \_\_\_\_\_

Designed By \_\_\_\_\_ Date \_\_\_\_\_  
Reviewed by \_\_\_\_\_ Date \_\_\_\_\_

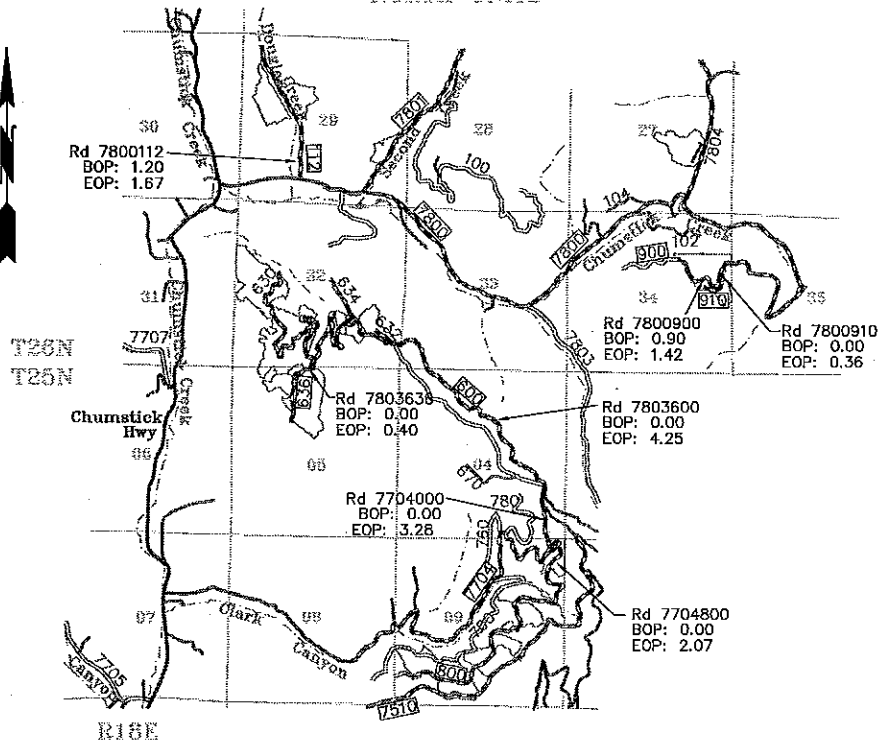
Sheet

Title

Sheet

1

# NORTH UNITS



## Legend

Stationing is in miles

- Paved Rd
- Project/Haul Rd
- Stream
- Other Rd

X Pit Location  
Rock Source &  
Disposal Area

0 1/2 1  
Scale in Miles

U.S. DEPARTMENT OF AGRICULTURE  
FOREST SERVICE  
R-6  
PACIFIC NORTHWEST REGION

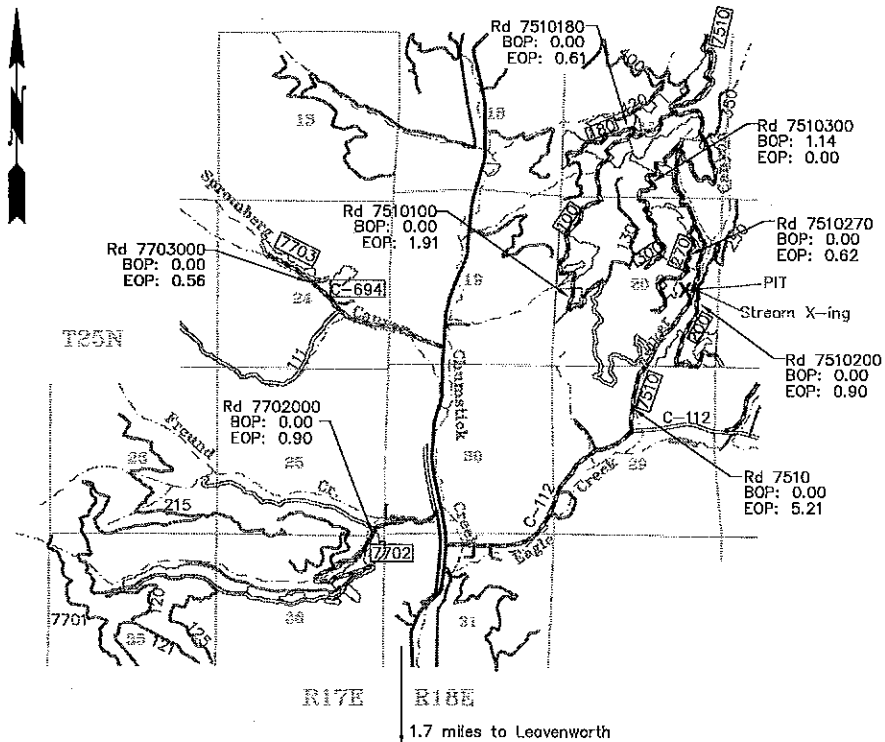
District  
WENATCHEE RIVER  
RANGER DISTRICT

Forest: Okanogan-Wenatchee  
National Forests  
Project: Skywalker T.S.

Sheet Title  
Vicinity Map

Sheet  
2

# SOUTH UNITS





Sheet 4  
SKYWALKER T.S.

[illegible]

Sheet 5  
SKYWALKER T.S.

[illegible]

Sheet 6  
SKYWALKER T.S.

[illegible]

## Notes, Symbols & Typical Details

### DISPOSAL OF MERCHANTABLE TIMBER (TIMBER MEETING UTILIZATION STANDARDS):

Merchantable timber (timber Meeting Utilization Standards) shall be decked in locations shown on drawings, within reach of standard loading equipment.

To meet minimum tree specifications, trees must be equal or exceed 7-inches DBH and contain at least one minimum piece. Such timber shall be felled and bucked into log lengths not exceeding 52 ft. Pieces (logs) shall also be considered as meeting Utilization Standards, and be required to be decked, when such pieces would have met Utilization Standards if bucking lengths were varied to include such material. Merchantable timber shall be limbed and bucked. Log decks shall be free of slash and debris. Material not meeting Utilization Standards, including any material remaining after deck removal, shall be disposed of as other construction slash pursuant to Specification 201.04.

### MINIMUM UTILIZATION STANDARDS:

SEE AT.2- Volume Estimate and Utilization Standards.

**DISPOSAL OF UNMERCHANTABLE TIMBER:** Logs not meeting Utilization Standards which are suitable for use as firewood, may be scattered and decked. Material not suitable for firewood shall be treated by other slash methods.

**STAKES:** All stakes shall have the following minimum nominal dimensions. Hubs shall be 2 in. X 2 in. X 8 in. Guard, reference, slope, and other stakes shall be 0.3 in. X 1.5 in. X 18 in. Lath shall be 0.4 in. X 1.5 in. X 3 ft. Other dimensions and materials may be used, such as steel reinforcing bars and metal pins, if approved by the Engineer. The color of paint or flagging, as well as the colors for use on stakes for clearing, reference, structures, and slope staking shall be fluorescent orange. Other colors may be used if approved in writing by the Engineer.

### SYMBOLS

BOP, EOP

CW

FW

TOL, TOR, TOS

V

LOD

& O

& ●

### DESCRIPTION

BEGINNING OF PROJECT, END OF PROJECT

CURVE WIDENING

FULL WIDTH AREA\*

TURNOUT LEFT/RIGHT/SPLIT

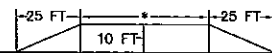
DRAIN DIP

LEAD-OUT DITCH

CULVERT ( EXISTING )

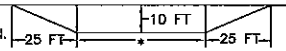
CULVERT ( INSTALL )

### TURNOUT

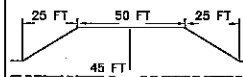


### ROAD

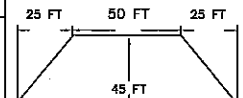
\* FULL WIDTH AREA. 50 FT MIN.  
OR AS SHOWN ON DRAWINGS.



### TURNAROUND

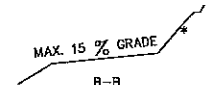
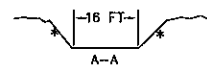
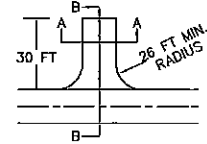


### SPLIT



LT./RT.

### "J" HOLE



\* BACKSLOPES SHALL CONFORM TO  
CONSTRUCTION TOLERANCES ON  
ROAD STRUCTURE DETAILS SHEET.

U.S. DEPARTMENT OF AGRICULTURE

FOREST SERVICE

R-6

PACIFIC NORTHWEST REGION

State:

WENATCHEE RIVER  
RANGER DISTRICT

Not To Scale

Forest:

Okanogan-Wenatchee

National Forests

Project:

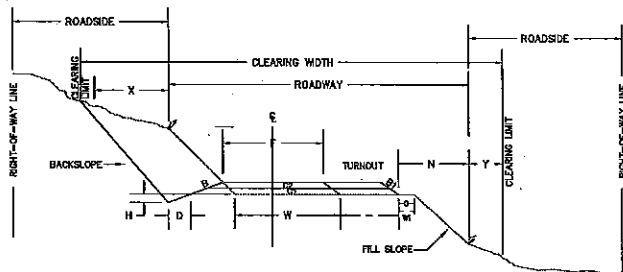
Skywalker T.S.

Sheet Title:

Notes, Symbols &  
Typical Details

Sheet

7



WM - EXTRA ROADBED WIDTH WHEN SUBBASE, BASE, COURSE, SURFACE COURSE, CURVE WIDENING, FILL WIDENING AND/OR TURNOUTS ARE SPECIFIED.

ROAD NUMBER	SEGMENT	STATION TO STATION MILES	CLEARING			GRADING				PAVEMENT STRUCTURE							
			BEYOND SLOPE STAKE	X	Y	FINISH ROADBED	ROADBED WIDTH FEET	FILL WIDENING FEET	DITCH DIMENSIONS FEET	TRAVELED WAY WIDTH FEET	GRADATION	COMPACTED DEPTH INCHES	SLOPE RATIO	B1	B2	B3	B4
7510000		0.00	5.21	4		SP	64	14	2								
7510100		0.00	1.91	5		SP	64	14	2								
7510180		0.00	0.61	5		SP	64	14	2								
7510200		0.00	0.90	5		SP	64	14	2								
7510270		0.00	0.62	5		SP	64	14	2								
7510300		0.00	1.14	5		SP	64	14	2								
7702000		0.00	0.80	5		SP	64	14	2								
7703000		0.00	0.56	5		SP	64	12									
7704000		0.00	3.28	5		SP	64	14	2								
7704800		0.00	2.07	5		SP	64	14	2								
7800112		0.00	0.47	5		SP	64	14	1								
7800900		0.00	1.42	5		SP	64	14	1								
7800910		0.00	0.36	5		SP	64	14	1								
7803600		0.00	4.25	5		SP	64	14	1								
7803636		0.00	0.40	5		SP	64	14	1								

## Road Structure Details

- (1) CURVE WIDENING, WHEN SPECIFIED, SHALL BE ADDED TO THE INSIDE OF THE CURVE.
- (2) ROADBED WIDTH, FILL WIDENING, TURNOUT LENGTHS, FILL AND BACKSLOPE RATION SHALL BE AS SPECIFIED IN CONSTRUCTION STAKING NOTES AND/OR DRAWINGS.
- (3) SEEDING, FERTILIZING AND/OR MULCHING AREA INCLUDES N, X & Y SHOWN ON THE TYPICALS AND ALL OTHER AREAS DISTURBED BY CONSTRUCTION (INCLUDES BURN BAYS AND DECKING AREAS).
- (4) TURNOUTS, TURNAROUNDS AND CURVE WIDENING SHALL BE SURFACED TO THE SAME DEPTH AS THE TRAVELED WAY AND TO THE DIMENSIONS SPECIFIED IN CONSTRUCTION STAKING NOTES AND/OR DRAWINGS.
- (5) ROADBED TEMPLATE TYPES ARE SHOWN ON THE DRAWINGS AND SHALL BE CONSTRUCTED TO THE FOLLOWING TOLERANCE:
  - OUTSLOPE (OUT): 0 TO 5 %
  - INSLOPE (IN): 2 TO 5 %
  - CROWN (CR): 2 TO 4 %
- (6) FINISHING ROADBED:
  - d. ROCKS PROTRUDING MORE THAN 4 INCHES ABOVE THE SUBGRADE SHALL BE REDUCED TO THE FINISHED SUBGRADE OR REMOVED. NO OVERSIZE MATERIAL SHALL BE LEFT ON THE SHOULDERS OR IN THE DITCHES. OVERSIZE MATERIAL IS DEFINED AS ROCKS 2 INCHES OR GREATER IN DIMENSION.
- (7) DITCHES ARE TO BE CONSTRUCTED WHERE NOTED ON THE WORK DESCRIPTION SHEETS OR PLAN AND PROFILE SHEETS.

(SP) CONSTRUCTION TOLERANCE: WHERE CONSTRUCTION STAKES ARE NOT SPECIFIED AND CLEARING LIMIT MARKING IS THE ONLY CONTROL REQUIRED, THE FOLLOWING SHALL GOVERN, UNLESS OTHERWISE SHOWN ON THE DRAWINGS. GRUB STUMPS WITHIN THE ROADWAY AND IN ACCORDANCE WITH FP-03 SPEC. 201.05

ROADBED WIDTH: as shown in column "W", plus curve widening, turnout widths, and fill widening.

CENTERLINE ALIGNMENT - 50 FOOT MINIMUM RADIUS CURVE.

GRADE - CHANGE BETWEEN GRADES SHALL BE UNIFORM AND NOT EXCEED 10 PERCENT IN 25 FEET.

MAXIMUM GRADE: - 10 PERCENT FAVORABLE  
- 15 PERCENT ADVERSE

FILL - NATURAL CATCH OBTAINED USING SIDE CAST CONSTRUCTION METHOD.

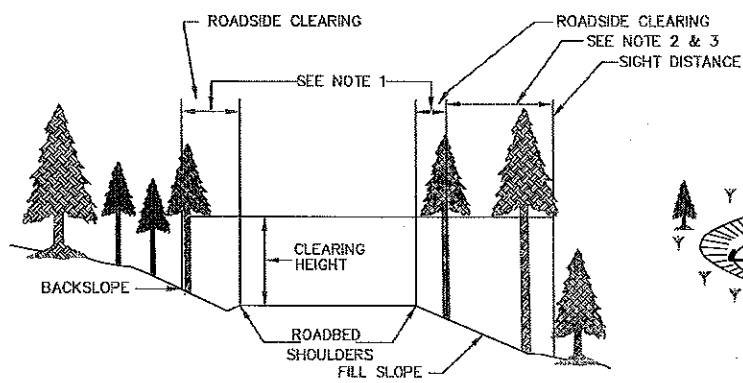
BACKSLOPE - COMMON 2 V : 1 H, ON FLAT GROUND, CUTS UNDER 3 FEET

COMMON 1 V : 1 H, UNDER 55% TO 3/4 V : 1 H, OVER 55%

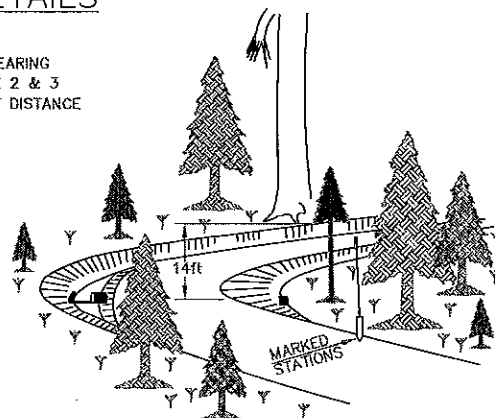
RIPPABLE 1/2 V : 1 H

SOLID 1/4 V : 1 H

## CLEARING DETAILS



CLEARING LIMITS TYPICAL  
NO SCALE



SIGHT DISTANCE TYPICAL  
NO SCALE

### NOTES

1. ALL CONIFERS, HARDWOODS AND BRUSH WITHIN 1 FOOT OF THE OUTSIDE SHOULDER OF THE ROAD AND 5 FEET FROM THE BOTTOM OF THE DITCH OR INSIDE SHOULDER SHALL BE REMOVED.
2. THE AREA OF SIGHT DISTANCE CLEARING WILL BE FROM THE ROADSIDE CLEARING LIMIT, TO A LINE OF SIGHT BETWEEN THE BEGINNING AND ENDING STATIONS MARKED ON THE GROUND. CONIFERS WITHIN THIS AREA SHALL BE THINNED TO APPROXIMATELY A 12 FEET TRUNK SPACING, EXCEPT WHERE MARKED WITH PAINT OR FLAGGING FOR REMOVAL TO AN ALTERNATE SPACING. ALL HARDWOODS & BRUSH WITHIN THESE LIMITS SHALL BE REMOVED.
3. BRANCHES ON REMAINING CONIFERS SHALL BE TRIMMED FROM GROUND LEVEL TO A CLEARING HEIGHT LIMIT 14 FEET ABOVE THE ROADBED OR TO A LIMIT OF 60% OF THE TREE'S HEIGHT, WHICHEVER IS LESS. LIMBS OF VEGETATION SHALL BE CUT SO AS TO NOT PROTRUDE WITHIN THE CLEARING LIMITS.

U.S. DEPARTMENT OF AGRICULTURE  
FOREST SERVICE  
**R-6**  
PACIFIC NORTHWEST REGION

District  
**WENATCHEE RIVER**  
RANGER DISTRICT

Not To Scale

Forest **Okanogan-Wenatchee**  
National Forests  
Project **Skywalker T.S.**

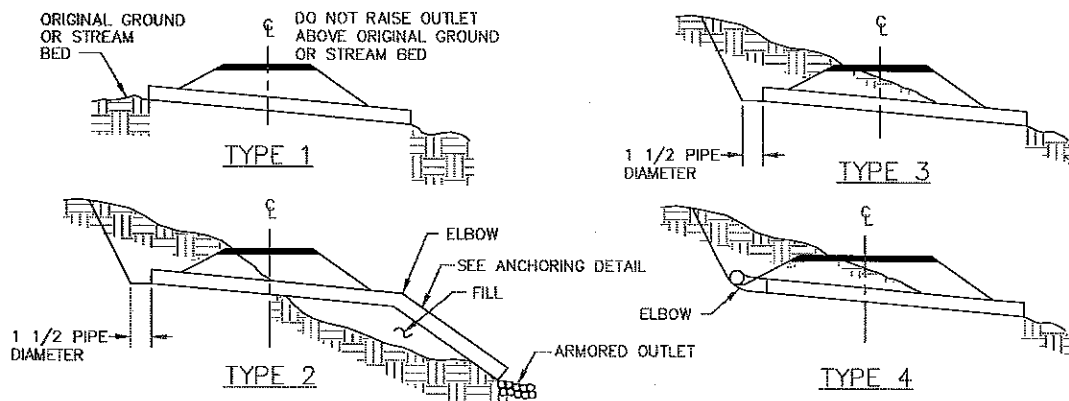
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**Clearing Details**

Sheet  
**9**

# DRAINAGE LISTING

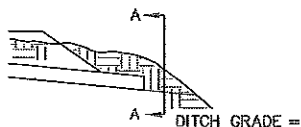
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## DRAINAGE CONSTRUCTION DETAILS

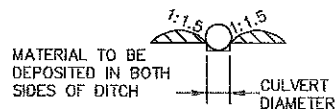


NOTE: MINIMUM COVER OVER CULVERT AT SHOULDER SHALL BE 1ft. BELOW SUBGRADE

OUTLET DITCH



SECTION A-A



SKEW DIAGRAM



B.O.P. = BEGINING OF PROJECT  
E.O.P. = END OF PROJECT

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District  
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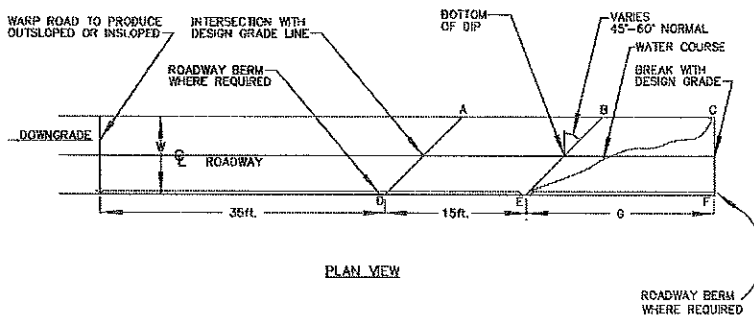
Forest  
**Okanogan-Wenatchee  
National Forests**  
Project  
**Skywalker T.S.**

Sheet Title  
**Drainage Construction  
Details**

Sheet  
**11**

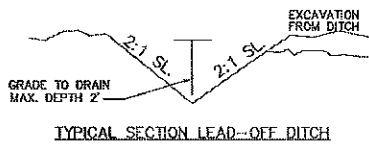
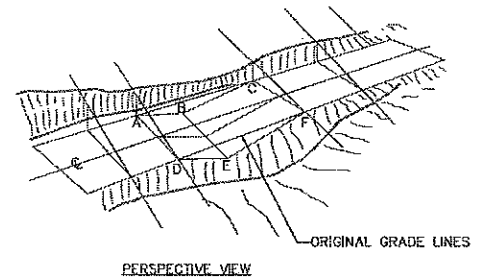
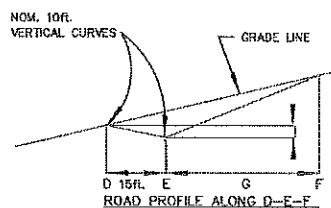
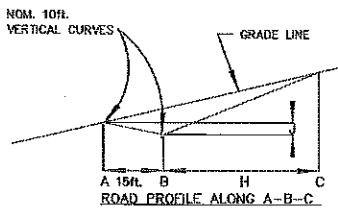


## DRAIN DIP DETAILS



ALL NUMBERS ARE IN FEET  
UNLESS STATED OTHERWISE

ROAD GRADE	W=12 ft. TO 14 ft.				W=24 ft.			
	LENGTH	DEPTH	LENGTH	DEPTH	LENGTH	DEPTH	LENGTH	DEPTH
UNDER 3	62	50	0.66	0.30	74	50	1.16	0.30
7	72	60	0.66	0.20	84	60	1.25	0.20
9	82	70	0.66	0.10	94	70	1.31	0.10



NOTE: PLAN SHOWN IS FOR OUTSLOPED ROLLING DIP. DIPS MAY BE EITHER INSLOPED OR OUTSLOPED. WHEN INSLOPED, DIPS SHALL DISCHARGE INTO A CULVERT, DROP INLET, OVERSIDE DRAIN OR ONTO NATURAL GROUND. THE MINIMUM CROSS GRADE FROM "B" TO "E" IS 4% GREATER THAN THE ORIGINAL ROAD GRADE.

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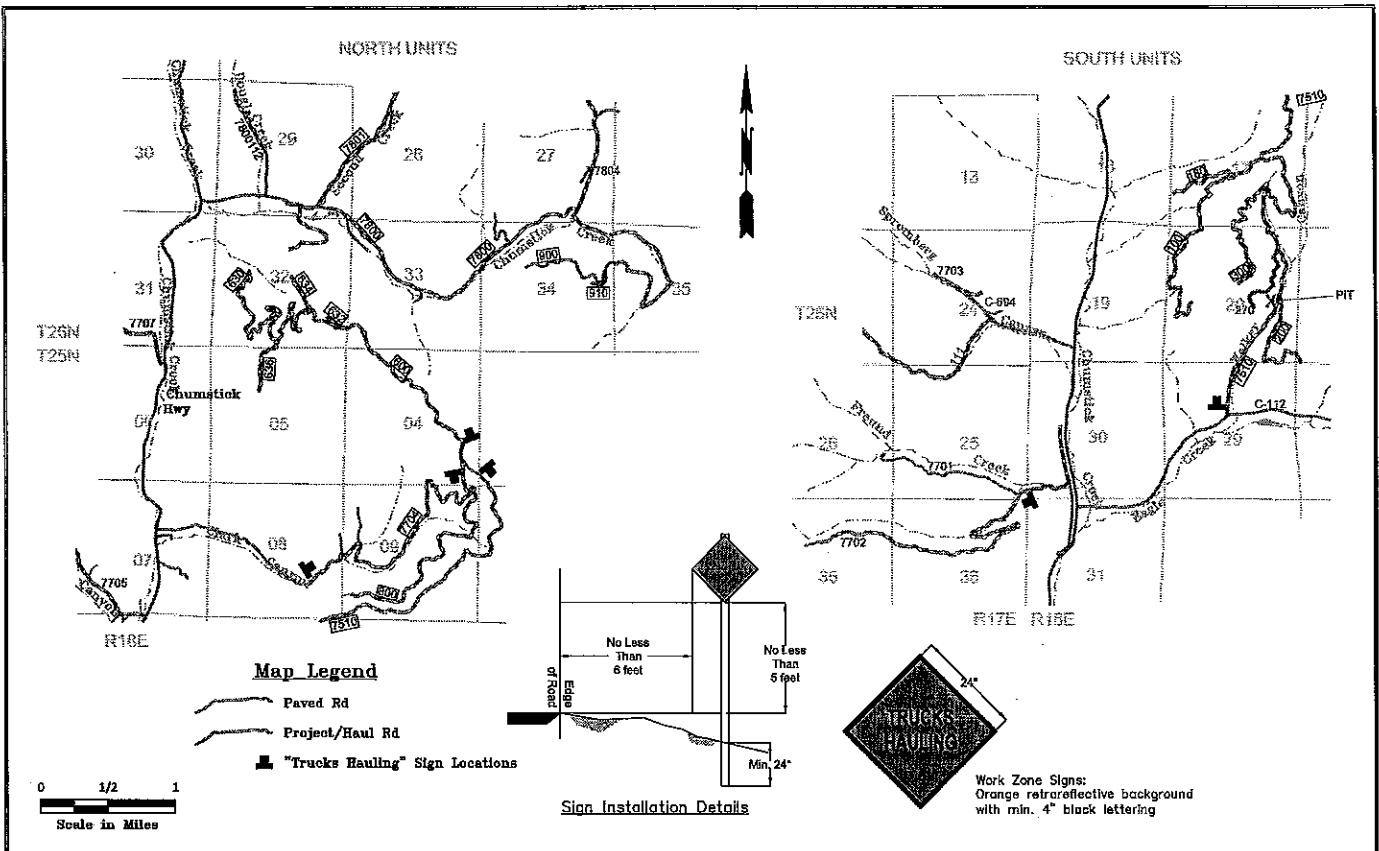
District  
WENATCHEE RIVER  
RANGER DISTRICT

Not To Scale

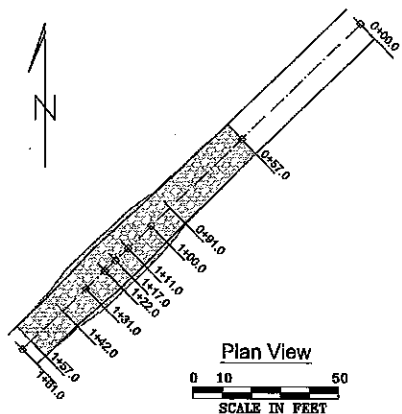
Forest Okanogan-Wenatchee  
National Forests  
Project Skywalker T.S.

Sheet Title  
Drain Dip Details

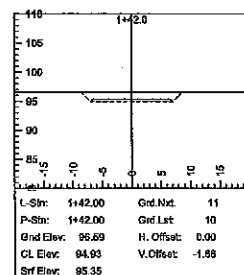
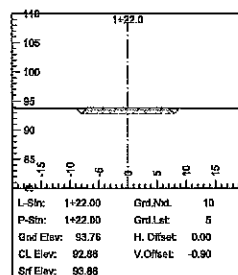
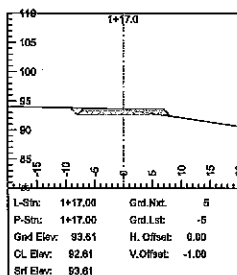
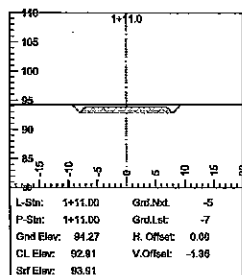
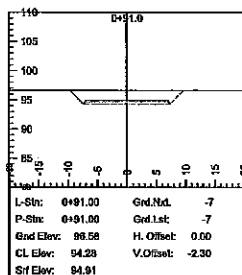
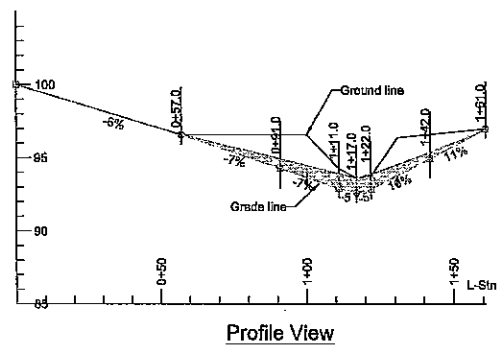
Sheet  
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U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE <b>R-6</b> PACIFIC NORTHWEST REGION	District <b>WENATCHEE RIVER</b> RANGER DISTRICT			Forest Okanogan-Wenatchee National Forests Project Skywalker T.S.	Sheet Title <b>Sign Plan</b>	Sheet <b>13</b>
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Stationing is in feet.  
Construct armored drain dip over stream crossing (Sta. 1+17 is the CL of the stream).  
Excavate from Gnd Elev. to CL Elev and place riprap from CL Elev to Srt Elev. (as shown in the Section View).  
Riprap shall be placed from sta. 0+57 to 1+57.  
Riprap source is directly across from sta. 0+00 on FS Rd 7510.  
Excess material from excavation shall be disposed of at pit (also the riprap source) on FS rd 7510.



**Section View**

U.S. DEPARTMENT OF AGRICULTURE  
FOREST SERVICE  
**R-6**  
PACIFIC NORTHWEST REGION

WENATCHEE RIVER  
RANGER DISTRICT

Not To Scale

Forest Okanogan-Wenatchee  
National Forests  
Project Skywalker T.S.

Sheet Title  
7510200 Stream  
Crossing Details

Sheet  
14

Road no.: 7510 BOP notes: Int w/Co. Rd, Eagle Creek			Road no.: 7510100 BOP notes: BOP @ Int. w/7510		
Sta. (mi)	Work Description	Sta. (mi)	Work Description	Sta. (mi)	Work Description
0.00	Begin Road Reconditioning. Begin Roadside Brush removal Excess mat'l from excavation shall be disposed of at pit on FS Rd 7510, T25N R18E Sec 20.	2.27	Ditch clean	4.20	Clean CMP
		2.38	End ditch clean	4.33	Remove cut slope material
		2.40	Ditch clean	4.36	End remove cut material
		2.44	End ditch clean		Clean CMP
0.485	Clean CMP	2.48	Ditch clean	4.38	Remove sandstone material from road
		2.57	End ditch clean		
0.614	Clean CMP	2.62	Ditch clean - right	4.50	Clean CMP
0.72	Clean CMP	2.74	End ditch clean Clean CMP	4.52	Remove cut slope mat'l
0.83	Clean CMP			4.67	End Remove cut slope mat'l
0.95	Clean CMP	2.76	Ditch clean - right		
		2.92	(Spur road left)	4.73	(Spur road, right)
1.14	Clean CMP	2.92	End ditch clean Clean CMP	4.78	Clean CMP
1.32	Clean CMP			4.85	Remove cutslope material
1.10	Begin ditch clean - left	2.95	Ditch clean - right	4.91	End remove cutslope material)
1.12	End ditch clean - left	3.01	Clean CMP		
1.19	End ditch clean	3.24	End ditch clean Clean CMP	4.94	Clean CMP
1.41	Clean CMP			5.21	Clean CMP EOP
1.46	Ditch clean	3.27	Begin ditch clean - right		
1.48	End ditch clean				
1.48	Clean CMP	3.38	End ditch clean		
		3.43	Clean CMP		
1.55	Ditch clean	3.47	Ditch clean		
1.58	End ditch clean				
1.59	Clean CMP	3.62	Begin road widening, remove slough mat'l from cutslope, Cont. ditch		
1.60	Clean CMP				
1.69	Clean CMP	3.75	End rd widening		
1.75	Clean CMP	3.77	Clean CMP		
1.75	Ditch clean	3.87	End ditch clean - right		
1.77	End ditch clean				
1.80	Clean CMP	3.89	Ditch clean - right		
1.83	Clean CMP				
1.89	Clean CMP	3.97	Clean CMP		
2.06	Clean CMP	4.08	Clean CMP		
2.23	Clean CMP				
2.34	Clean CMP				
2.49	Clean CMP	4.16	Remove rocks from ditch		
				0.00	BOP Begin clearing Begin road reconditioning (all waterbars shall be removed) Excess material from excavation shall be hauled and disposed of at pit on FS Rd 7510, T25N R18E Sec 20.
				0.02	remove earthen barrier construct drain dip
				0.21	Spur rd, right
				0.41	construct drain dip
				0.47	construct drain dip
				0.57	construct drain dip
				0.66	construct drain dip
				0.69	Begin road widening end rd widening
				0.71	end rd widening
				0.74	Begin road widening construct drain dip
				0.83	end road widening construct drain dip
				0.87	spur rd, right
				0.88	Begin road widening end road widening
				0.92	end road widening
				0.93	construct drain dip
				0.94	Begin road widening fillslope failure, sandstone cutbank move road into hillside
				0.95	remove large boulders from road
				0.86	remove large deposit material
				0.87	end remove large deposit mat'l
				0.89	end rd widening
				1.04	Begin road widening, remove slough from cutslope
				1.06	construct drain dip
				1.10	end road widening Install 24" x 50' CMP
				1.16	construct drain dip
				1.19	Begin road widening
				1.24	end road widening
				1.31	construct drain dip
				1.41	construct drain dip
				1.64	construct drain dip
				1.66	Begin rd widening end rd widening
				1.67	end rd widening
				1.75	(spur road right)
				1.82	construct drain dip
				1.80	construct drain dip
				1.91	EOP (unit 10)

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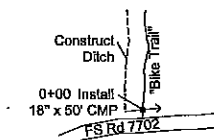
District  
WENATCHEE RIVER  
RANGER DISTRICT

Not To Scale

Forest Okanogan-Wenatchee  
National Forests  
Project Skywalker T.S.

Sheet Title  
Work Descriptions

Sheet  
15

<p>Road no.: 7510180 BOP notes: BOP @ int w/rd 100, end unit 9</p> <p>sta. Work Description (mi)</p> <p>0.00 BOP Begin Road Reconditioning Begin clearing Excess material from excavation shall be hauled to pit on FS Rd 7510, T26N R18E Sec 20</p> <p>0.08 Begin road widening, remove slough from cut 0.10 end rd widening (excess mat'l shall be blended onto rd)</p> <p>0.13 begin road widening, remove slough from cut 0.14 end road widening (excess mat'l shall be blended onto rd)</p> <p>0.36 Begin rd widening, remove slough from cut 0.39 end road widening (excess mat'l shall be blended onto rd)</p> <p>0.41 Begin rd widening, remove slough from cut 0.42 end road widening (excess mat'l shall be blended onto rd)</p> <p>0.49 Begin rd widening 0.56 end road widening 0.61 EOP</p>	<p>Road no.: 7510270 BOP notes: BOP @ int w/7510</p> <p>sta. Work Description (mi)</p> <p>0.00 BOP Begin clearing Begin road reconditioning Excess material from excavation shall be disposed of at pit on FS rd 7510</p> <p>0.05 remove earthen barrier 0.11 Widen narrow road 0.13 end rd widening, excess mat'l shall be blended onto rd</p> <p>0.17 Widen narrow rd 0.22 end rd widening 0.24 Widen narrow rd 0.26 end rd widening</p> <p>0.30 Widen narrow rd 0.32 end rd widening, excess mat'l shall be blended onto rd</p> <p>0.55 Widen narrow rd 0.62 end rd widening EOP</p>	<p>Road no.: 7510300 BOP notes: BOP is at the int. w/rd 7510. Sta. begins at 1.14 and ends at 0.00</p> <p>sta. Work Description (mi)</p> <p>1.14 Begin Clearing Begin roadbed reconditioning Dispose of excess mat'l from excavation (rd widening) in pit on FS rd 7510.</p> <p>1.13 remove earthen barrier</p> <p>0.79 end rd widening 0.72 begin rd widening</p> <p>0.67 remove boulder</p> <p>0.66 end rd widening 0.62 begin rd widening</p> <p>0.56 remove slough 0.50 remove boulder</p> <p>0.46 end rd widening 0.42 remove slough 0.37 begin rd widening</p> <p>0.33 end rd widening 0.30 begin rd widening</p> <p>0.28 solid rock area, end rd widening 0.25 remove slough, begin rd widening</p> <p>0.21 end rd widening 0.19 widen rd 0.16 widen rd 0.11 widen rd 0.10 widen rd 0.00 end project, unit 3 begin rd widening</p>	<p>Rd No. 7702 BOP @ int w/FS rd 7702 (rd is currently being used as bike trail)</p> <p>sta. (mi) Work Description</p> <p>0.00 Begin Clearing Begin Road Reconditioning Remove earthen barrier Install 18" x 50' ditch relief culvert (18" CMP will run parallel to main rd) w/Catch Basin Begin ditch construct, left</p> <p>0.02 Install 24" CMP x 30 ft. w/Catch Basin and ditch construct, left</p> <p>0.02 Begin ditch construct 0.04 End ditch construct Construct drain dip</p> <p>0.16 Construct drain dip 0.26 Existing Stream, Install CMP 57 in X 38 in X 30' Remove geogrid/cells Use material adjacent to site for fill material and headwall rock.</p> <p>0.37 Construct drain dip 0.39 (Spur rd, right)</p> <p>0.51 Existing stream, Install CMP, 57 in X 38 in X 30' Remove geogrid/cells. Use material adjacent to site for fill material and headwall rock</p> <p>0.53 Construct drain dip 0.54 Begin road widening 0.57 end road widening 0.62 Construct drain dip 0.71 Construct drain dip 0.81 Construct drain dip 0.90 EOP = 30' curve radius, switchback</p>  <p>BOP, CMP Install Not To Scale</p>
<p>Rd No. 7510200 BOP: BOP @ int. w/rd 7510</p> <p>sta. Work Description (mi)</p> <p>0.00 BOP @ int w/rd 7510 Begin clearing Begin road reconditioning Excess mat'l generated from excavation shall be disposed of at pit on FS rd 7510.</p> <p>0.02 stream crossing, See Sheet 14 (excavation+riprap)</p> <p>0.08 spur rd, left</p> <p>0.19 construct drain dip</p> <p>0.30 begin remove slough from cut 0.31 end slough removal (excess mat'l shall be blended onto rd)</p>	<p>sta. Work Description (mi)</p> <p>0.32 construct drain dip</p> <p>0.37 begin remove slough from cut 0.43 construct drain dip 0.46 end slough removal</p> <p>0.52 construct drain dip 0.64 construct drain dip</p> <p>0.73 Begin road widening</p> <p>0.74 construct drain dip 0.84 construct drain dip 0.90 EOP</p>		

sta. (mi)	Work Description
0.00	BOP Begin Clearing Begin Road Reconditioning
0.56	EOP

Sta. (mi)	Work Description	Sta. (mi)	Work Description
0.00	Begin Roadside brushing Begin Road Reconditioning	1.117	Begin Ditch clean, right
0.00	Begin Ditch clean, left	1.14	End ditch clean
0.02	End ditch clean, left	1.357	Clean CMP
0.21	Begin Ditch clean, left end ditch clean	1.441	Clean CMP
0.295		1.58	Clean CMP
0.374	Spur road, left	1.6	Remove boulder from ditch
0.385	Clean CMP	1.67	Begin ditch clean, right
0.49	Clean CMP	1.707	Clean CMP
0.65	Clean CMP	1.855	Clean CMP
0.748	Clean CMP	2.006	Clean CMP
0.777	Begin Ditch clean, left	2.198	Clean CMP
0.786	Reshape drain dip	2.214	Clean CMP (large fill, may not be able to reach w/equipment)
0.85	end ditch clean, left	2.386	Clean CMP
0.91	Clean CMP	2.51	Clean CMP
0.917	Begin Ditch clean, right	2.633	Clean CMP (cont. ditch clean)
0.975	End ditch clean, right Clean CMP	2.785	Clean CMP
(0.985	Spur road, right)	2.85	End ditch clean
0.988	Begin Ditch clean, right	3.28	Clean CMP
1.01	Clean CMP		EOP
1.04	End ditch clean, right		

Sta. (mi)	Work Description	Sta. (mi)	Work Description
0.00	Begin Clearing Begin Road Reconditioning Excess mat'l generated from excavation shall be disposed of at pit on FS rd 7510.	1.01	Install CMP, 24" x 30', w/Catch basin
0.02	Remove earthen barrier	1.12	Construct drain dip
0.21	Construct drain dip	1.21	Narrow Rd, Begin rd widening
0.26	Construct drain dip	1.23	End rd widening Construct drain dip
0.31	Construct drain dip	1.28	Narrow Rd, Begin rd widening
0.44	Narrow Rd, Begin rd widening	1.36	Construct drain dip
0.49	End rd widening Construct drain dip	1.38	End rd widening
0.53	Install CMP, 24" x 42' w/Catch basin	1.41	Narrow Rd, Begin rd widening
0.55	Narrow Rd, Begin rd widening	1.44	End rd widening
0.59	End rd widening	1.46	Construct drain dip
0.60	Narrow Rd, Begin rd widening	1.53	Narrow Rd, Begin rd widening
0.64	End rd widening	1.58	End rd widening
0.70	Narrow Rd, Begin rd widening	1.61	remove boulder
0.71	Construct drain dip	1.62	Narrow Rd, Begin rd widening
0.74	End rd widening	1.64	End rd widening
0.80	Narrow Rd, Begin rd widening Construct drain dip	1.67	Construct drain dip
0.82	End rd widening	1.68	Narrow Rd, Begin rd widening
0.89	Narrow Rd, Begin rd widening	1.69	Construct drain dip
0.93	Construct drain dip	1.76	End rd widening
0.95	End rd widening	1.78	Narrow Rd, Begin rd widening
0.97	Narrow Rd, Begin rd widening	1.89	End rd widening Construct drain dip
1.00	End rd widening	2.02	Construct drain dip
		2.04	Narrow Rd, Begin rd widening
		2.07	EOP



<p>Road no.: 7800112 BOP notes: BOP, from int. w/7800 travel north on rd 112 apprx. 1.2 mi.</p> <p>Sta. Work Description (mi) 1.20 BOP Begin Clearing Begin Road Reconditioning</p> <p>1.29 Construct drain dip 1.47 Construct drain dip 1.56 Construct drain dip 1.65 Construct drain dip</p> <p>1.67 EOP</p>	<p>Road no.: 7800910 BOP notes: BOP @ int w/900</p> <p>Sta. Work Description (mi) 0.00 Begin Clearing Begin Road Reconditioning excess material generated from excavation shall be disposed of at pit on FS rd 7510</p> <p>0.01 (forest bdy) Construct drain dip 0.08 (spur rd left) Construct drain dip 0.11 Construct drain dip 0.13 Road narrows, begin widening 0.16 Construct drain dip 0.20 End road widening 0.30 Construct drain dip 0.32 (spur road, left) 0.36 EOP</p>	<p>Road no.: 7803600 (cont.)</p> <p>Sta. Work Description (mi) 0.724 Reshape drain dip Remove slough mat'l from cutslope 0.75 Reshape drain dip 0.798 Reshape drain dip 0.852 Reshape drain dip 0.888 Reshape drain dip 0.945 Reshape drain dip 0.976 Reshape drain dip 1.012 Reshape drain dip 1.064 Reshape drain dip 1.113 Reshape drain dip 1.273 Reshape drain dip 1.337 Reshape drain dip 1.373 Reshape drain dip 1.408 Reshape drain dip 1.491 Reshape drain dip 1.514 Reshape drain dip 1.62 Reshape drain dip 1.642 Reshape drain dip 1.75 Reshape drain dip 1.791 Reshape drain dip 1.825 Reshape drain dip</p>	<p>Road no.: 7803600 (cont.)</p> <p>Sta. Work Description (mi) 1.853 Reshape drain dip 1.873 Spur road, right 1.89 Reshape drain dip 1.992 Reshape drain dip 2.035 Reshape drain dip 2.162 Reshape drain dip 2.203 Reshape drain dip 2.36 Reshape drain dip 2.415 Reshape drain dip 2.47 Reshape drain dip 2.501 Reshape drain dip 2.541 Reshape drain dip 2.715 Spur road, left 2.891 Reshape drain dip 2.939 Reshape drain dip 3.209 Reshape drain dip 2.296 Reshape drain dip 3.337 Reshape drain dip 3.533 Reshape drain dip 3.725 Reshape drain dip 4.042 Reshape drain dip 4.176 Reshape drain dip 4.237 Reshape drain dip 4.251 EOP</p>	<p>Road no.: 7803635 BOP notes: BOP @ int w/600</p> <p>Sta. Work Description (mi) 0.00 BOP Begin Clearing Begin Road Reconditioning excess material generated from excavation shall be blended onto existing road</p> <p>0.13 Construct drain dip 0.16 Construct drain dip 0.24 Spur road, right 0.35 Remove slough from cut Construct drain dip 0.40 EOP @ landing</p>
<p>Road no.: 7800900</p> <p>Sta. Work Description (mi) 0.80 BOP @ int. w/910 Begin Clearing Begin Road Reconditioning Excess material generated from excavation shall be blended onto existing road</p> <p>0.99 Road narrows, widen road 1.08 End road widening</p> <p>1.11 Road narrows, widen road 1.13 End road widening</p> <p>1.22 Clean existing 18" CMP, inlet (in place)</p> <p>1.42 EOP</p>	<p>Road no.: 7803600</p> <p>Sta. Work Description (mi) 0.00 BOP/Gate Begin clearing Begin road reconditioning excess material generated from excavation shall be blended onto existing road</p> <p>0.17 (Spur road left)</p> <p>0.109 Reshape drain dip 0.135 Reshape drain dip 0.268 Reshape drain dip 0.389 Reshape drain dip 0.431 Reshape drain dip</p> <p>0.473 Reshape drain dip 0.535 Reshape drain dip 0.552 Reshape drain dip 0.593 Reshape drain dip 0.626 Reshape drain dip</p>			